92d Congress
1st Session

COMMITTEE PRINT

WATERSHED WORK PLAN FOR TALLASEEHATCHIE CREEK WATERSHED, CLAY AND TALLADEGA COUNTIES, ALABAMA

REPORT ~~OF THE SOIL CONSERVATION SERVICE, DEPARTMENT OF AGRICULTURE~~, IN ACCORDANCE WITH THE PROVISIONS OF PUBLIC LAW 83-566

COMMITTEE ON PUBLIC WORKS
UNITED STATES SENATE

FEBRUARY 1971

SERIAL NO. 92-4

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PRELIMINARY CONTENTS

LETTER OF SUBMITTAL

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

December 23, 1970

Honorable Spiro T. Agnew
President of the Senate
Washington, D. C. 20510

Dear Mr. President:

Pursuant to the authority vested in the President by section 5 of the Watershed Protection and Flood Prevention Act, as amended (16 U.S.C. 1005), and delegated to the Director of the Office of Management and Budget by Executive Order No. 10654 of January 20, 1956, there are transmitted herewith the following plans for works of improvement which have been prepared under the provisions of that Act:

State	Watershed
Alabama	Tallaseehatchie Creek
Texas	Ecleto Creek*
Texas	Pond Creek*
Texas	Sanderson Canyon*
Virginia	Ni River*

Each of the above listed plans involves at least one structure which provides more than 4.000 acre-feet of total capacity.

Sincerely,

Caspar W. Weinberger
Acting Director

Note: Referred to the Committee on Public Works by the Secretary of the Senate on December 30, 1970, Executive Communication No. 125.
*Printed separately.

ENVIRONMENTAL STATEMENT

TALLASEEHATCHIE CREEK WATERSHED
Clay and Talladega Counties, Alabama

I. The Environmental Impact of the Proposed Project

The installation of structural works of improvement on Tallaseehatchie Creek Watershed will create 388 acres of water and inundate approximately 8 miles of stream channel. This additional water will result from the installation of one multiple purpose reservoir (87 acres), six floodwater retarding structures (121 acres), and 180 acres in farm ponds. The improvement of about 30 miles of stream channels for flood prevention will require the temporary clearing of 734 acres of vegetation.

The recreational developments planned around structures No. 1 and 4 will provide approximately 73,200 visitor-day activities. These activities include fishing, camping, boating, picnicking, sightseeing, swimming, and hiking. These structures are located within the Talladega National Forest. The proposed Talladega scenic drive plus other major attractions, such as the Talladega International Speedway, will also attract thousands of tourists. The facilities planned in Tallaseehatchie Creek Watershed will help meet some of the recreational needs of these tourists as well as the local residents.

The 1,000 acre-feet of municipal water planned for the City of Sylacauga will help it to meet its water demands for many years. This should make more water available for uses which enhance the environment, such as improving lawns, trees and parks.

The works of improvement will provide flood protection to 9,783 acres of land. Of this 9,783 acres, 9,525 acres are agricultural land and 258 are in urban areas. The protection in the urban areas will reduce flooding to 64 businesses, 1 textile mill, 45 homes, and 1 national defense plant.

Erosion in the watershed will be reduced by the land treatment measures and conversion to less intensive land use in upland areas. Floodplain erosion will also be reduced because of smaller and less frequent floods. Within the City of Sylacauga, damaging floods will be reduced from as often as three times a year to once in 100 years on the average. The average annual area flooded, taking into account the size and frequency of all floods, will be reduced by more than half.

Sediment deposition in Sylacauga's present water supply reservoir, Lake Howard, will be reduced by more than 1,000 acre-feet during the project life. Total sediment and scour damages will be reduced by about 86 percent.

The flood protection which the project provides will enable the City of Sylacauga to complete its planned urban renewal project. Businesses and

industries, as well as residents, can upgrade their establishments without fear of frequent damages from floods.

II. Adverse Environmental Effects

Seven hundred and thirty-four acres along the streams of Tallaseehatchie Creek Watershed will be cleared in connection with project construction. Shirtee Creek, on which 56 acres will be cleared, is a polluted stream in an industrial area, with no apparent habitat value. Clearing of 137 acres along Wewoka Creek, which has a very low fishery habitat, will cause some loss of wildlife habitat. The remaining 541 acres of clearing on Fourmile, Emauhee, Crooked, and Tallaseehatchie Creeks will cause some loss to a moderate value wildlife population and a low value fishery.

Enlargement of stream channels is necessary to accomplish the objectives of the sponsors. The plan provides for land treatment and the development of all possible structure sites to retard runoff. However, because of channel filling resulting from erosion and land abuse, cleanout of channel is necessary to obtain a minimum level of protection. Stream banks and adjacent cleared areas will be vegetated. This will provide some food and cover for wildlife.

The Department of the Interior has pointed out that portions of the stream are presently polluted, and that the proposed channelization will transport the pollutants farther downstream and expose a greater reach of the stream to water quality degradation. It did not comment on the increased ability of the stream to purify itself as a result of improved flow characteristics. In any event, the project effect on water quality will be further reviewed and the plan modified, if necessary, to comply with State health and water quality requirements.

III. Alternatives to the Proposed Structural Measures

Floodwater retarding structures were considered as the first alternative in an effort to achieve a minimum level of flood protection. Retarding structures are planned on all potential sites except one. This site could not be developed because the embankment would partially cover a natural rock quarry and prevent its further use. No other alternatives are available.

IV. Relationship between Local Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity

Land treatment measures such as pasture and hayland planting, grassed waterways, terracing, construction of ponds, hydrologic stand improvement, and tree planting on upland forests will be installed to achieve better present land use and to help preserve the land for future use. Since sediment is a major polluter of streams in the watershed, these land treatment measures will have a significant effect on the control of pollution. Land treatment measures plus the floodwater retarding structures located above Lake Howard

will reduce sediment accumulation in the lake thereby maintaining about 1,035 acre-feet of effective municipal water storage which would otherwise have been occupied by sediment. This lake provides the present municipal water supply for the City of Sylacauga and will continue to be used during the life of the project.

Land treatment measures will enhance the environment by reducing erosion and increasing infiltration rates. These land treatment measures applied by individual farm operators will increase the productive capacity of farms.

V. Irreversible and Irretrievable Commitments of Resources

The installation of the floodwater retarding structures will not prevent the mining of any minerals in this watershed. Marble deposits exist within the watershed; however, site investigations indicate there is none underneath the structure sites.

The conversion of 253 acres of grassland and forest land to sediment and multiple use pools of the structures will cause negligible reductions in these resources.

The Department of the Interior points out that fish habitat in project streams has been degraded by pollutants, but, should the pollution be controlled in future years, the proposed channel alterations would preclude reestablishment of natural fish habitat.

VI. Problems and Objections Raised by other Agencies

The Department of the Interior recommends that provisions be made to allow reservoir releases equal at least to the water entering the reservoirs to avoid reduction in the base flow of the streams. The effect of the project on base flow will be carefully studied and all needed and practical provisions to avoid an adverse effect will be included in the structure designs.

The Department of the Interior further recommended that channelization be used only when absolutely necessary and to the minimum extent possible, and that careful studies be conducted to examine the ecological impacts and not just those values pertaining to flood damage minimization. The plan was formulated on the basis of making minimum use of channel improvement. Careful attempts have been made to examine all ecological impacts.

COMMENTS OF THE STATE OF ALABAMA

ALABAMA STATE SOIL AND WATER CONSERVATION COMMITTEE

STATE OFFICE BUILDING
MONTGOMERY, ALABAMA 36104

WILBUR B. NOLEN, JR.
EXECUTIVE SECRETARY

STATE COMMITTEE MEMBERS

T. L. FAULKNER
STATE SUPERVISOR
VOCATIONAL AGRICULTURE

A. D. HOLMES, SR.
FARMER

W. M. HODGSON, SR.
FARMER

RICHARD BEARD
FARMER

DR. FRED ROBERTSON
DIRECTOR
EXTENSION SERVICE

DR. E. V. SMITH
DEAN OF AGRICULTURE

April 8, 1970

Honorable Kenneth Grant, Administrator
Soil Conservation Service
United States Department of Agriculture
Washington, D. C. 20250

Dear Mr. Grant:

The Alabama State Soil and Water Conservation Committee has received and reviewed the proposed work plan for Tallaseehatchie Creek Watershed, Alabama, and has approved said plan in accordance with Section 5 of the Watershed Protection and Flood Prevention Act, as amended. The State Committee would greatly appreciate any assistance which you might render in expediting completion of this much needed watershed development.

If our office may be of further assistance in this regard, it will be a pleasure to serve you.

Very truly yours,

WILBUR B. NOLEN, JR.
Executive Secretary

WBN:smg

cc: W. B. Lingle, State Conservationist
Joe Cleland, Area Conservationist
Clay County District
Talladega County District

x

COMMENTS OF THE DEPARTMENT OF THE ARMY

DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

May 4, 1970

Honorable Thomas K. Cowden
Assistant Secretary of Agriculture
Washington, D. C. 20250

Dear Dr. Cowden:

In compliance with the provisions of Section 5 of Public Law 566, 83d Congress, the Administrator of the Soil Conservation Service, by letter of 27 March 1970, requested the views of the Secretary of the Army on the work plan for Tallaseehatchie Creek Watershed, Clay and Talladega Counties, Alabama.

We have reviewed this work plan and foresee no conflict with any projects or current proposals of this Department.

Sincerely,

for R. A. Heiss

Robert E. Jordan, III
Special Assistant to the Secretary of the Army
(Civil Functions)

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

May 6, 1970

Dear Mr. Secretary:

This is in reply to the letter of March 27, 1970, from the Administrator of Soil Conservation Service, submitting for our review and comment the work plan for Tallaseehatchie Creek Watershed, Alabama. In accordance with Section 2 of Executive Order 10913 and provisions of Section 5 of the Watershed Protection and Flood Prevention Act, as amended, this work plan has been reviewed by interested agencies of the Department of the Interior and the following comments are offered.

Fish and wildlife resources of the watershed will not be seriously affected by the proposed plan of development, although some fish and wildlife habitat will be lost as a result of channel work and inundation. Fish habitat in project streams has been degraded by pollutants eminating from the textile mill and other sources along the stream course. Should the pollution be controlled during future years, the proposed channel alterations would preclude reestablishment of natural fish habitat. It is requested that the enclosed report of the Bureau of Sport Fisheries and Wildlife accompany the work plan when it is forwarded to Congress.

We note in the report that the U.S. Forest Service is planning to install recreational facilities at Sites 1 and 4. Such facilities must be examined under Executive Orders 11507 and 11514. Sanitary facilities at these sites must meet Federal, State and local health regulations. Responsibility for maintenance of waste collection and adequate treatment facilities should be clearly stated.

There are no known waste discharges in the drainage area of the multiple-purpose structure which is located above Sylacauga's water supply reservoir (Howard Dam) and this structure is not expected to adversely affect water quality. The single-purpose structures, however, have the potential for lowering water quality through a reduction in the base flow from these streams. It is therefore recommended that provisions be made to provide reservoir releases equal to the water entering the reservoir to avoid reduction in the base flow.

The City of Sylacauga has a secondary treatment plant and two smaller secondary waste treatment plants, which discharge their effluent to Crooked Creek and Tallaseehatchie Creek. Any reduction in the base flow of these streams will have a detrimental effect on water quality. As stated above, it is recommended that provisions be made to allow reservoir releases equal at least to the water entering the reservoirs in order to maintain a beneficial equilibrium of biological organisms and to prevent any further degradation of water quality.

The proposed channelization will transport the pollutants farther downstream due to the increase in flow velocity and therefore will expose a greater reach of the stream to water quality degradation. We recommend that channelization be used only when absolutely necessary and to the minimum extent possible, and that careful studies be conducted to examine the ecological impacts and not just those values pertaining to flood damage minimization. Information regarding such studies should be included in work plans. We would suggest that the Soil Conservation Service consider a coordinated study with concerned agencies for the purpose of examining the amount of channelization and possible alternatives. Slight enlargement of present structures to provide greater floodwater storage might afford one possible alternative.

To protect water quality during the construction period, it is recommended that contract specifications require all contractors to adhere to guidelines for minimizing soil erosion and water and air pollution during construction as set forth in the Soil Conservation Service "Engineering Memorandum - 66".

We appreciate the opportunity to review and comment on this watershed work plan, and provided that the above recommendations are considered, we have no objections to the proposed project.

Sincerely yours,

Deputy Assistant Secretary of the Interior

Honorable Clifford M. Hardin
Secretary of Agriculture
Washington, D. C. 20250

Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
PEACHTREE-SEVENTH BUILDING
ATLANTA, GEORGIA 30323

December 27, 1968

DA-Ala. (Tallaseehatchie Creek)

Mr. William B. Lingle
State Conservationist, Soil
Conservation Service
Auburn, Alabama

Dear Mr. Lingle:

In cooperation with representatives of the Alabama Department of Conservation, we have conducted reconnaissance studies of the Tallaseehatchie Creek Watershe Talladega and Clay Counties, Alabama. This report, based upon work plan data provided by Mr. E. V. Todd on November 5, 1968, is submitted in accordance with provisions of Section 12 of the Watershed Protection and Flood Prevention Act (68 Stat. 666, as amended; 16 U.S.C. 1008).

The small watershed data sheet indicates that there is proposed about 11 miles of channel excavation; 15 miles of clearing and snagging; and other works, including 28 acres of wildlife area improvement and 23 acres of field border planting. Nine floodwater-retarding structures, including one with municipal storage, are proposed.

Wildlife resource values in the watershed are moderate to low. Owing to texti mill pollution, the stream fishery is negligible.

Excavation, channel clearing, and inundation will result in the loss of wildlife habitat. This loss will be somewhat compensated for by the 28 acres of wildlife area improvement and 23 acres of field border planting. Although not subject to intensive management, the nine reservoirs will provide a low to moderate quality sport fishery. We hope that you will encourage the landowners to manage and stock these reservoirs in accordance with current Alabama Department of Conservation recommendations and to provide adequate public acces

This report has been reviewed and concurred in by the Alabama Department of Conservation and a copy of Director Graham's letter is attached.

We appreciate the opportunity to comment on the proposed plan.

Sincerely yours,

W. L. Towns
Acting Regional Director

Attachment

STATE OF ALABAMA
DEPARTMENT OF CONSERVATION
ADMINISTRATIVE BUILDING
MONTGOMERY, ALABAMA 36104

JOE W. GRAHAM
DIRECTOR
AUBREY J. CARR
ASSISTANT DIRECTOR

December 16, 1968

Mr. W. L. Towns
Acting Regional Director
U.S. Department of the Interior
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife
Peachtree-Seventh Building
Atlanta, Georgia 30323

Dear Mr. Towns:

A review of your organization's report on the Tallaseehatchie Creek Watershed Project located in Talladega and Clay Counties, Alabama, has been made.

The Alabama Department of Conservation concurs in the Bureau of Sport Fisheries and Wildlife report on this project.

Sincerely,

Joe W. Graham
Director of Conservation

COMMENTS OF THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
ENVIRONMENTAL HEALTH SERVICE
ROCKVILLE, MARYLAND 20852

ENVIRONMENTAL CONTROL
ADMINISTRATION

May 21, 1970

Mr. Kenneth E. Grant
Administrator
U.S. Soil Conservation Service
Department of Agriculture
Washington, D.C. 20250

Dear Mr. Grant:

As requested in your letter of March 27, 1970, the Work Plan for the Tallaseehatchie Creek Watershed, Alabama, has been reviewed. The Department's concerns with this Project are summarized in the enclosed report by the Bureau of Water Hygie: of the Environmental Control Administration.

The Department of Health, Education, and Welfare has no objection to the authorization of this project insofar as departmental interests and responsibilities are concerned.

Sincerely yours,

Raymond T. Moore, M.D.
Acting Commissioner

Enclosure

BUREAU
OF
WATER HYGIENE

HEW Agency Review of Water and Related Land Resources Projects

TITLE:

U.S. Soil Conservation Service Work Plan for Tallaseehatchie Creek Watershed, Clay and Talledega Counties, Alabama.

PROJECT SUMMARY:

The following is a summary of the U.S. Soil Conservation Service Report. The Bureau of Water Hygiene has not determined the validity of the indicated costs or of the benefit cost ratios:

The 131,077 acre Tallaseehatchie Creek Watershed is located in east-central Alabama. The Watershed Work Plan proposes construction of 6 single-purpose floodwater retarding structures, one multiple-purpose structure for municipal water supply and flood prevention, approximately 29.8 miles of stream channel improvement for flood prevention; and installation of an assortment of land treatment measures for watershed protection. The U.S. Soil Conservation Service reports that recreation facilities will be installed by the U.S. Forest Service at Reservoir sites 1 and 4 at such time as funding priorities permit. These sites will be used for swimming, fishing, boating, camping and picnicking. The total estimated cost of installing these measures, excluding those recreation facilities to be provided by the Forest Service, is estimated at $5,320,565. The benefit cost ratio is estimated at 1.3 to 1.0.

DISCUSSION OF HEALTH-RELATED FEATURES OF THE PROJECT:

The City of Sylacauga, Alabama with a population of 19,000 people obtains its municipal and industrial water supply from the 5,300 acre-foot Lake Howard constructed in 1956. The proposed Project by the Soil Conservation Service will add an additional 1,000 acre-feet to Sylacauga's water supply. This additional storage will not be used for ten years, however a 67 percent population growth has been projected by 1990 and the City feels that additional water will be needed. Reservoirs 1, 2 and 3 are located above Lake Howard and are expected to receive most of the sediment load which is presently deposited in Lake Howard. This obviously will improve the quality of water stored in Lake Howard but will do little for the 1,000 acre-foot supply at Reservoir No. 1. Although the Work Plan report is not clear on this point we believe the best method of coordinating and improving the quality of these two supplies will involve releasing storage from the New Reservoir site downstream to Lake Howard as needed.

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Multiple-purpose structure No. 1 will also be used for extensiv recreational activity including swimming. The Work Plan gives assurance that sanitary facilities meeting State and local health requirements will be installed at all recreation areas. Care should also be exercised in using the facility for bathing due to the high sediment load expected.

Flood prevention and drainage improvement measures outlined in the Work Plan should significantly reduce vector control problems in the watershed through the elimination of mosquito breeding areas. Appropriate measures should also be employed during design and construction phases of the project to eliminate possible breeding areas of disease and nuisance vectors. These measures are outlined in the Public Health Service brochure "Prevention and Control of Vector Problems Associated with Water Resources."

RECOMMENDATIONS ON PROPOSED PROJECT:

Recommend HEW concurrence in proposed project.

18 May 1970
Date

James E. Warren
Staff Engineer

ENDORSEMENT:

HEW concurrence recommended.

21 May 1970
Date

Director,
Bureau of Water Hygiene

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

June 16, 1970

Honorable James G. Watt
Deputy Assistant Secretary
Department of the Interior

Dear Mr. Watt:

We appreciate the comments of the Department of the Interior contained in your letter of May 6, 1970, on the work plan for the Tallaseehatchie Creek Watershed in Clay and Talladega Counties, Alabama. We are pleased to note your statement that fish and wildlife resources of the watershed will not be seriously affected by the proposed plan of development.

You expressed concern that the proposed reservoirs have the potential for lowering water quality by reducing the base flow in Crooked Creek and Tallaseehatchie Creek. You recommend that provisions be made to allow releases equal to the water entering the reservoirs.

We have carefully considered your expressed concern about the project reducing base flow. While it is true that evaporation from water surfaces will increase, we do not know of research findings showing that watershed projects in 50 inch rainfall areas decrease base flow. Even if some diminution of base flow were to occur in this watershed, the value of releases to offset this should be weighed against the cost of recreational benefits foregone on the reservoirs to be developed for this purpose by the Forest Service. We will give this matter careful study before the dams are constructed.

It is true as you state that "the proposed channelization will transport the pollutants farther downstream due to the increase in flow velocity and, therefore, will expose a greater reach of the stream to water quality degradation." However, changes in the natural purification ability of the stream should also be considered. With greater velocities and improved ability of the stream to pick up oxygen, natural purification could improve sufficiently to result in a net gain in water quality.

We require that watershed projects fully comply with State laws and regulations including those applicable to health and water quality. Although we do not expect the project to significantly affect water quality, this matter will be explored further with the State health and water quality authorities before project installation. At that time the plan will be modified, if necessary, to comply with applicable laws or regulations.

We have noted your suggestion for a coordinated study of channelization and possible alternatives including the enlargement of presently planned structures. As the work plan points out all potential structure sites in the watershed were examined and only seven were found to be feasible. These are all included in the plan. More structures to control the runoff from a higher proportion of the watershed would have been desirabl However, more capacity in the seven structures would not significantly increase the level of flood protection in this watershed. We prefer (and our policies provide for it) to use floodwater retardation to the maximum for flood prevention. In this watershed, however, because of channel filling due to past land abuses and a limited number of structural sites, channelization is essential to provide even a minimum level of flood protection.

Thank you for calling these matters to our attention and for the opportunity to provide this explanation.

Sincerely,

Kenneth E. Grant

Administrator

WATERSHED WORK PLAN AGREEMENT

Between the

Tallaseehatchie Creek Watershed Conservancy District
Talladega County Soil and Water Conservation District
Clay County Soil and Water Conservation District
Talladega County Commissioners Court
Court of County Commissioners, Clay County
City of Sylacauga
The Utilities Board of the City of Sylacauga

(Hereinafter Referred to as the Sponsoring Local Organizations)

State of Alabama

and the

Soil Conservation Service
United States Department of Agriculture
(Hereinafter Referred to as the Service)

Whereas, application has heretofore been made to the Secretary of Agriculture by the Sponsoring Local Organizations for assistance in preparing a plan for works of improvement for the Tallaseehatchie Creek Watershed, State of Alabama, under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress; 68 Stat. 666), as amended; and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act, as amended, has been assigned by the Secretary of Agriculture to the Service; and

Whereas, there has been developed through the cooperative efforts of the Sponsoring Local Organizations and the Service a mutually satisfactory plan for works of improvement for the Tallaseehatchie Creek Watershed, State of Alabama, hereinafter referred to as the watershed work plan, which plan is annexed to and made a part of this agreement;

Now, therefore, in view of the foregoing considerations, the Sponsoring Local Organizations and the Secretary of Agriculture, through the Service, hereby agree on the watershed work plan, and further agree that the works of improvement as set forth in said plan can be installed in about seven years.

It is mutually agreed that in installing and operating and maintaining the works of improvement substantially in accordance with the terms, conditions, and stipulations provided for in the watershed work plan:

1. Except as hereinafter provided, the Sponsoring Local Organizations will acquire without cost to the Federal Government such land rights as will be needed in connection with the works of improvement. (Estimated cost $309,710.) The percentages of this cost to be borne by the Sponsoring Local Organizations and the Service are as follows:

Works of Improvement	Sponsoring Local Organizations (Percent)	Service (Percent)	Estimated Land Rights Cost (Dollars)
All Structural Measures	100	0	309,710

2. The Sponsoring Local Organizations will acquire or provide assurance that landowners or water users have acquired such water rights pursuant to State law as may be needed in the installation and operation of the works of improvement.

3. The percentages of construction costs of structural measures to be paid by the Sponsoring Local Organizations and by the Service are as follows:

Works of Improvement	Sponsoring Local Organizations (Percent)	Service (Percent)	Estimated Construction Cost (Dollars)
Multiple-Purpose Structure No. 1			
Joint Costs	9.47	90.53	543,980
Specific Cost			
Slide Headgate	100	0	4,000
Six Floodwater Retarding Structures and about 29.8 Miles of Stream Channel Improvement	0	100	2,719,550

3A. The percentages of fire suppression equipment cost to be paid by the Sponsoring Local Organizations and by the Service are as follows:

Works of Improvement	Sponsoring Local Organizations (Percent)	Service (Percent)	Estimated Construction Cost (Dollars)
Fire Suppression Equipment	50	50	16,300

4. The percentages of the engineering costs to be borne by the Sponsoring Local Organizations and the Service are as follows:

Works of Improvement	Sponsoring Local Organizations (Percent)	Service (Percent)	Estimated Engineering Costs (Dollars)
Multiple-Purpose Structure No. 1			
Joint Cost	9.47	90.53	32,650
Specific Cost			
Slide Headgate	100	0	230
Six Floodwater Retarding Structures and about 29.8 Miles of Stream Channel Improvement	0	100	195,470

5. The Sponsoring Local Organizations and the Service will each bear the costs of Project Administration which it incurs, estimated to be $12,930 and $525,310, respectively.

6. The Sponsoring Local Organizations will obtain agreements from owners of not less than 50 percent of the land above each reservoir and floodwater retarding structure that they will carry out conservation farm or ranch plans on their land.

7. The Sponsoring Local Organizations will provide assistance to landowners and operators to assure the installation of the land treatment measures shown in the watershed work plan.

8. The Sponsoring Local Organizations will encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the watershed.

9. The Sponsoring Local Organizations will be responsible for the operation and maintenance of the structural works of improvement

by actually performing the work or arranging for such work in accordance with agreements to be entered into prior to issuing invitations to bid for construction work.

10. The costs shown in this agreement represent preliminary estimates. In finally determining the costs to be borne by the parties hereto, the actual costs incurred in the installation of works of improvement will be used.

11. This agreement is not a fund obligating document. Financial and other assistance to be furnished by the Service in carrying out the watershed work plan is contingent on the appropriation of funds for this purpose.

    A separate agreement will be entered into between the Service and the Sponsoring Local Organizations before either party initiates work involving funds of the other party. Such agreement will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.

12. The watershed work plan may be amended or revised, and this agreement may be modified or terminated, only by mutual agreement of the parties hereto.

13. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

14. The program conducted will be in compliance with all requirements respecting nondiscrimination as contained in the Civil Rights Act of 1964 and the regulations of the Secretary of Agriculture (7 C.F.R. 15.1-15.12), which provide that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any activity receiving Federal financial assistance.

Tallaseehatchie Creek Watershed Conservancy District
Local Organization

By Wm M Kelly

Title CHAIRMAN

Date MARCH 3, 1970

The signing of this agreement was authorized by a resolution of the governing body of the Tallaseehatchie Creek Watershed Conservancy District adopted at a meeting held on MARCH 3 1970.

William H. Hubbard
(Secretary, Local Organization)

Date MARCH 3, 1970

Talladega County Soil and Water Conservation District
Local Organization

By Morris Higginbotham

Title Chairman

Date March 9, 1970

The signing of this agreement was authorized by a resolution of the governing body of the Talladega County Soil and Water Conservation District adopted at a meeting held on March 9, 1970.

S. V. Small
(Secretary, Local Organization)

Date March 9, 1970

Clay County Soil and Water Conservation District
Local Organization

By J. Lemuel Sellers

Title Chairman

Date 3-13-70

The signing of this agreement was authorized by a resolution of the governing body of the Clay County Soil and Water Conservation District adopted at a meeting held on Oct. 11, 1966.

Geo. M. Burns
(Secretary, Local Organization)

Date 3-13-70

Talladega County Commissioners Court
Local Organization

By Joe J. Phillips Sr

Title Chairman

Date March 9, 1970

The signing of this agreement was authorized by a resolution of the governing body of the Talladega County Commissioners Court adopted at a meeting held on October 23, 1967.

Faye Eason
(Secretary, Local Organization)

Date March 9, 1970

Court of County Commissioners, Clay County
Local Organization

By Jesse T. Pruit

Title Chairman

Date March 11, 1970

The signing of this agreement was authorized by a resolution of the governing body of the Court of County Commissioners, Clay County, adopted at a meeting held on 9-12-66.

Blanche Alexander
(Secretary, Local Organization)

Date 3-11-70

City of Sylacauga
Local Organization

By J. P. Darby

Title Mayor

Date 3-6-70

The signing of this agreement was authorized by a resolution of the governing body of the City of Sylacauga adopted at a meeting held on 3-6-70.

John Newberry, city clerk
(Secretary, Local Organization)

Date 3-6-70

The Utilities Board of the City of Sylacauga
Local Organization

By C W Tunstall

Title Chairman

Date March 6, 1970

The signing of this agreement was authorized by a resolution of the governing body of The Utilities Board of the City of Sylacauga adopted at a meeting held on March 6, 1970.

Warren E Mount
(Secretary, Local Organization)

Date March 6, 1970

Soil Conservation Service
United States Department of Agriculture

By Kenneth E Grant
Administrator

Date JUN 30 1970

WATERSHED WORK PLAN

TALLASEEHATCHIE CREEK WATERSHED

CLAY AND TALLADEGA COUNTIES, ALABAMA

WATERSHED WORK PLAN

For

TALLASEEHATCHIE CREEK WATERSHED

Clay and Talladega Counties, Alabama

Prepared under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress, 68 Stat. 666), as amended.

Prepared by: Tallaseehatchie Creek Watershed Conservancy District

Talladega County Soil and Water Conservation District

Clay County Soil and Water Conservation District

Talladega County Commissioners Court

Court of County Commissioners, Clay County

City of Sylacauga

The Utilities Board of the City of Sylacauga

With assistance by: U. S. Department of Agriculture, Soil Conservation Service

U. S. Department of Agriculture, Forest Service

February 1970

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Talladega and Clay Counties, Alabama

SUMMARY OF PLAN

The work plan for Tallaseehatchie Creek Watershed was prepared by the Tallaseehatchie Creek Watershed Conservancy District, Talladega County Soil and Water Conservation District, Clay County Soil and Water Conservation District, Talladega County Commissioners Court, Court of County Commissioners, Clay County, City of Sylacauga, and The Utilities Board of the City of Sylacauga as sponsoring local organizations. Technical assistance was provided by the United States Department of Agriculture under authority of Public Law 566, 83rd Congress, 68 Stat. 666, as amended.

The watershed comprises 131,077 acres of drainage area in the southern portion of Clay and Talladega Counties. The land use is 72 percent woodland, 16 percent grassland and idle, 7 percent cropland, and 5 percent urban areas, roads, and other miscellaneous uses. All land is privately owned except roads, certain city properties, and 28,800 acres of National Forest land.

The flood plain includes 10,139 acres of highly productive land of which a major portion is flooded on an average of three times annually. County and state roads receive damages from these floodwaters. A portion of the City of Childersburg is within this flood plain, and residential areas receive damages from floodwaters originating within the watershed.

The City of Sylacauga's downtown business area, which is designated as an urban renewal area, receives damages from floodwaters originating within and outside the downtown area. There is no satisfactory outlet within the incorporated boundaries of Sylacauga for these floodwaters. Any improvement within Sylacauga to alleviate the flooding would add more damages to existing properties outside the city's incorporated boundaries.

The City of Sylacauga expects a major population growth which in turn will require additional municipal water.

To solve the problems in Tallaseehatchie Creek Watershed, the sponsors set as their objectives (1) to accelerate land treatment in order to reduce erosion and runoff from all lands within the watershed, (2) to reduce by approximately 70 percent floodwater damages that occur within the flood plain and also to reduce the frequency and magnitude of flooding in order to more effectively utilize the flood plain in accordance with its capabilities, (3) to provide a future supply of municipal water for the City of Sylacauga, (4) to provide a satisfactory outlet for the City of Sylacauga's downtown area floodwaters and to provide urban protection to industries and other works of improvement existing along the proposed outlet channel, and (5) to provide both immediate and long-range job opportunities for unemployed and underemployed available labor resources.

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To accomplish these objectives, planned works of improvement include land treatment for watershed protection and structural measures for flood prevention and municipal water storage. It is expected that all of these measures will be installed during a 7-year period. The total estimated cost of installing the works of improvement is $5,320,565 of which $4,057,480 (76 percent) will be provided from P. L. 566 funds and $1,263,085 (24 percent) from Other funds.

Land treatment measures such as pasture and hayland planting, grassed waterways, terracing, construction of ponds, hydrologic stand improvement, tree planting on upland forests, and removal of down material and hazardous trees along streambanks where no channel improvements are planned will be applied on individual farms by landowners in cooperation with the Clay and Talladega County Soil and Water Conservation Districts. The estimated cost of installing these measures is $976,735. On individual farms the P. L. 566 share consisting of accelerated technical assistance and cooperative forest fire control is $95,150. The remaining land treatment cost of $881,585 will come from Other funds. Critical area stabilization measures on National Forest lands are estimated to cost $16,745. These measures will be installed and maintained by the U. S. Forest Service.

Structural measures consist of six single-purpose floodwater retarding structures, one multiple-purpose (municipal water and floodwater retarding) structure, and approximately 29.8 miles of single-purpose flood prevention stream channel improvement. The estimated cost is $4,343,830 of which $3,962,330 will be provided from P. L. 566 funds. The local people will bear the remainder of the installation cost, $381,500, and the total cost of operation and maintenance, which is estimated to be $17,414 annually.

Structural works of improvement will benefit approximately 9,783 acres of flood plain land, 64 downtown businesses, one national defense plant, one textile mill, and approximately 45 homes and other establishments. About 165 landowners will benefit directly from floodwater damage reduction and better utilization of their flood plain lands and businesses. Approximately 3,200 workers will benefit from continued employment, which does not presently exist because of periodic plant shutdown caused by flooding. Structural measures will benefit state roads at two locations and county roads at 23 locations. The total average annual benefits resulting from all planned structural measures are $302,545 (Table 6). The total average annual cost including operation and maintenance amounts to $231,000, giving a 1.3:1 benefit-cost ratio for the project.

DESCRIPTION OF THE WATERSHED

Physical Data

Tallaseehatchie Creek Watershed is located in the southern third of Talladega County and the southwest side of Clay County. There are 131,077 acres in the watershed, of which 110,962 acres are in Talladega County and 20,115 acres in Clay County. The portion of the watershed in Clay County is mainly within the Talladega National Forest. The watershed is 18 miles long and averages 11 miles wide.

Talladega Mountain, with a peak elevation of 1,912 feet above mean sea level, is the drainage divide on the eastern side of the watershed. Tallaseehatchie Creek begins in the Talladega Mountains and flows westward, emptying into the Coosa River near the City of Childersburg. The elevation of Childersburg is 420 feet above mean sea level.

The watershed is in the Southern Piedmont and Southern Appalachian Ridges and Valleys Land Resource Areas. The steep eastern portion of the watershed is underlain by slates, phyllites, and schists with a thick sandstone member forming Talladega Mountain. Marble-bearing rocks lie beneath the valley at the western boundary of the Talladega Mountains. These rocks contain deposits of marble, which have been worked at numerous places for building stone and other uses. The famous Sylacauga marble is quarried at the southwest edge of the City of Sylacauga. The western and central portions of the watershed consist mostly of gently sloping land underlain by cherty limestones and dolomites.

Dominant soils on the uplands are Talladega, Tallapoosa, Tatum, Dewey, Minvale, and Decatur in land capability classes II through VII with classes VI and VII being dominant. The lower areas, including the flood plain, consist of the McQueen, Masada, Wickham, and Sylacauga series in land capability classes I, II, and IIIw. The flood plain, which is broad and nearly level to gently sloping, is being used for cropland and pasture land.

Seventy-two percent or 94,402 acres of the watershed are forested. The present hydrologic condition based on five classes is 0 percent very good, 3 percent good, 38 percent fair, 49 percent poor, and 10 percent very poor.

The poor condition was caused by overcutting and past cultivation of lands that are now forested. This condition is characterized by a thin litter layer over a firm mineral soil, with no humus buildup. During flood periods, these areas produce sediment and excessive runoff. Most of these areas are adequately stocked with desirable humus-building species. Management and protection of these areas and the installation of the proposed forest land treatment measures will improve the hydrologic condition of the forest soils.

The City of Sylacauga and surrounding urban area, located in the southernmost part of the watershed, have a combined population of over 19,000. The City of Childersburg, located at the confluence of Tallaseehatchie Creek and Coosa River, has a population of 5,000. The City of Talladega is the county seat and is located approximately 15 miles north of the watershed. Birmingham, with a population of over 682,000, is the nearest metropolitan area and is located 45 miles northwest of the watershed.

Average annual rainfall is 52 inches. Normally, October and November are the driest months. Thunderstorms and intense showers of short duration are common during the spring and summer months. Winters are relatively mild and summers are warm. Summer temperatures of 100 degrees Fahrenheit and above seldom occur.

Economic Data

The major cropland is located on the gentle sloping land and flood plain that extend from the toe of the Talladega Mountains westward to the Coosa River. The steeper land is either grass or woods. Principal farm enterprises are row crop, beef and dairy cattle production, and forest products. Corn, cotton, and soybeans are the major row crops, with the production of hay being an important enterprise. A reduction in corn and an increase in soybeans and pasture have taken place over the past few years.

The present land use is as follows:

Land Use	Acres	Percent
Row Crops	9,000	7
Pasture	18,000	14
Woodland	94,402	72
Idle	3,000	2
Miscellaneous	6,675	5

Forest types are 78 percent pine, 9 percent pine-hardwood, 3 percent hardwood-pine, and 10 percent hardwood. Principal species are shortleaf pine, loblolly pine, longleaf pine, black gum, blackjack oak, sourwood, dogwood, and hickory. Some of the minor species are cedar, live oak, persimmon, sweetgum, yellow poplar, maple, and cherry.

Sawtimber volumes average 680 board-feet per acre for pine. Hardwood sawtimber volumes are not significant. Pulpwood volumes average 2.0 cords per acre for pine and 1.0 cords per acre for hardwood.

Pulpwood companies own 11,000 acres or 12 percent of the woodland. Talladega National Forest contains 28,800 acres (30 percent), and the remaining 54,602 acres of woodland (58 percent) are in private holdings. The Coosa River Newsprint, a pulpwood processing plant, is located at Childersburg and provides a very close market for the pulpwood in the area. Local sawmills handle the saw timber.

The U. S. Forest Service administers the 28,800 acres of National Forest land in the watershed. This land is under fire protection and is managed under the principles of multiple use.

The Alabama Forestry Commission through the various federal-state cooperative forestry programs is providing forest management assistance, forest fire prevention and suppression, distribution of planting stock, and forest pest control assistance to private landowners in the watershed. However, they presently have very limited fire-fighting equipment with which to control the numerous fires in the watershed.

There are approximately 550 farms in the watershed averaging 130 acres in size. The average value of agricultural land and buildings per farm is

$19,443.[1] The value of upland ranges from $75 to $200 per acre. Flood plain lands range from $100 to $300 per acre. Land values in the urban areas range from $3,000 per acre in fringe areas to $1,000 per frontage foot in downtown business areas.

Talladega and Clay Counties are in the Appalachian area, and both are included in the Coosa Valley Resource Conservation and Development plan. Unemployed and underemployed available labor resources exist in the watershed. The 1964 U. S. Census of Agriculture, adjusted to the watershed, indicates that 47 percent of the farms are classified as commercial farms and 53 percent are classified as part-time farms. More than 72 percent of the farms had total sales of less than $2,500 in 1964. This means that annual labor income is only about $1,000 to $1,500 per farm family in this group after production expenses are deducted.

The total population of the watershed is approximately 31,000. Included in this total are the City of Sylacauga and surrounding area with 19,000 and the City of Childersburg with 5,000.

There are several businesses and industries in the watershed such as Avondale Textile Mills, Defense Metal Products, Coosa River Newsprint, and several marble industries which provide off-farm employment to people in the watershed.

The watershed is served by U. S. Highway 231, which runs north-south through the middle of the watershed, and U. S. Highway 280, which crosses through the southwest side. Several state and county roads cross the watershed. Two railroads, the Central of Georgia and the Louisville Nashville, which go through Sylacauga, traverse the watershed. All these lines of communications provide good farm-to-market access.

Land Treatment Data

The Talladega County Soil and Water Conservation District has assisted 160 landowners in the watershed with soil and water conservation plans for their farms. These plans cover 28,370 acres or 22 percent of the watershed area. Approximately 50 percent of the needed land treatment measures have been applied and are valued at $678,365.

Fish and Wildlife Resource Data

Wildlife populations range from low to moderate. Rabbit, squirrel, and quail are moderate in numbers. Deer and turkey are negligible to moderate in numbers. Most of the deer and turkey are found on the Hollins Game Management Area. The eastern portion of the watershed includes 10,800 acres of the Hollins Game Management Area.

The fishery of Tallaseehatchie Creek and its tributaries is generally of low value. The low quality of water in the lower reaches of Tallaseehatchie Creek adversely affects the production of fish. Principal species of sport

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[1] Based on the 1964 United States Census of Agriculture, adjusted.

fish are bass, bluegill, bullheads, channel cat, crappie, and various sunfishes. Fishing activity is moderate, but success in catches is low except in managed fishponds.

WATERSHED PROBLEMS

Floodwater Damage

A major problem in the watershed is the damaging floods which inundate 10,139 acres of flood plain along Tallaseehatchie Creek and its tributaries. Average annual direct flood damages are estimated to be $188,642, of which $72,606 are to crops and pasture; $26,934, other agriculture; $18,081, road and bridges; $60,144 to urban areas of the cities of Childersburg and Sylacauga; and $10,877 by sediment and scour. These floods usually occur during the months of March, April, and May in the planting and early growing season. A storm in April of 1951 caused approximately $86,959 damage to crops, pastures, and fences as well as $37,201 damage to homes, roads, and bridges. Two bridges were completely washed away and others were severely damaged. This rainfall event was considered to be a 10-year 24-hour duration frequency storm.

Each year bridge abutments are washed out and roads are made impassable for periods of time. Roads crossing the flood plain are scoured enough to require additional fill material in order to return them to their original condition.

Much of the fertile flood plain has been changed from row cropland to pasture land because of the loss of top soil during floods. Many landowners desire to utilize this flood plain for row crops of corn, soybeans, and cotton but are not willing to take the chance of losing their crops and fields to recurring floodwaters.

The downtown area of the City of Sylacauga is located on gently sloping land, which normally should have good surface drainage. However, because of a complexity of railroads and streets and an inadequate storm drainage system, the floodwaters are retarded and cause considerable damage to businesses within the downtown area. Average annual floodwater damages of $57,484 occur to downtown businesses, a defense plant, textile mill, and residential and other commercial areas. An urban renewal project for the downtown Sylacauga area is in progress. Included in the urban renewal project objectives are plans for installing a satisfactory internal drainage system, provided a satisfactory outlet can be obtained. At present a satisfactory outlet for the internal drainage system does not exist. The present outlet for these floodwaters consists of a small channel which passes close to a defense plant and under a large textile mill. At present these manufacturers are receiving damages from floodwaters which exceed the present channel capacity on approximately a .33-year frequency storm. Any additional discharges out of the downtown area without providing additional capacity through the downstream areas would only add to the flood problems and damages that already exist.

In the City of Childersburg about 25 houses receive floodwater damages from both the Tallaseehatchie Creek and Coosa River. Damaging floodwaters from Tallaseehatchie Creek occur when the Coosa River is low and the storm frequency on Tallaseehatchie Creek Watershed exceeds approximately a 25-year frequency storm. When the Coosa River is high, floodwaters from Tallaseehatchie Creek back up causing damages to the houses. The storm in 1951, which did about $66,300 damage to Childersburg, was estimated to be a 75-year frequency event on the Coosa River but a 10-year frequency event on Tallaseehatchie Creek. Average annual damages to Childersburg caused by Tallaseehatchie Creek overflowing are estimated to be $1,905.

Flooding of Cropland and Pastures Along Tallaseehatchie Creek
February 1961

Flooding of Urban Areas in Childersburg During Storm of April 1951

Flooding of Streets and Stores in Downtown Sylacauga
During Storm of April 1951

Erosion Damage

Erosion damage to uplands in the watershed consists of loss of soil from fields, yards, and pastures by sheet erosion and by rill and sheet erosion of roadbanks, ditches, and unpaved road surfaces. Sheet erosion results in a reduction in fertility in the field and exposes less fertile, more easily erodible subsoil to attack by wind and water. Roadside erosion results in filling of ditches or in some cases deepening of ditches and increased roughness of unpaved roads, all adding to road maintenance costs and creating unsightly public roads.

Flood plain scour or erosion by floodwaters reduces the productive capacity of the land for several years until farming operations and natural processes can rebuild fertility and smooth the scoured land. Damage of this type occurs on 1,773 acres of flood plain land each year and reduces the income from these acres by 11 to 22 percent.

Sediment Damage

Sediment production from the watershed is low to moderate. Sediment is deposited on the flood plain in two forms--(1) widespread, fine-grained sediment deposited on crops and pastures and (2) small, sandy deposits which are less fertile than the soil on which they are laid.

Damage due to fine-grained sediment on crops and pastures is inseparable from floodwater damage and is part of the flood damage to the crop or pasture that is on a field at the time of a flood.

Infertile deposition reduces the productive capacity of the land for several years until natural fertility can be rebuilt. Deposition of this type on 356 acres of flood plain land has reduced the income from the affected areas by 10 to 40 percent.

Indirect Damage

During periods of flooding in downtown Sylacauga, store owners sandbag their doorways to keep floodwaters out. Because of this, customers are not able to enter their stores and transact business; thereby, creating a loss to the owners far in excess of the direct flood damages to the stores. Industries in Sylacauga experience delays in production which in turn affect goods reaching other areas on time. These urban indirect flood damages are estimated to be approximately $24,000 annually. Other indirect damages occur when roads are impassable and long detours are necessary. Delays in planting, cultivating, and harvesting caused by floodwaters also add to the indirect damages.

Problems Relating to Water Management

In 1956 the City of Sylacauga installed a municipal and industrial water supply dam, Lake Howard, to store over 5,300 acre-feet of water. This water supply is adequate at present; but with a 67-percent projected population growth by 1990, the city officials feel that additional water is needed. There are a few suitable damsites above Lake Howard, and the city officials

feel they must plan now to add municipal water into one of these good sites. Sylacauga has several deep wells which are used as an emergency source of water. The wells are not considered to be an absolutely dependable source of water and produce undesirable hard water.

Water storage capacity of Lake Howard is gradually decreasing because of the deposition of sediment, while water use in the City of Sylacauga is gradually increasing. It is estimated that one-third of the present storage capacity of Lake Howard will be depleted by sediment during the next 100 years.

Tallaseehatchie Creek Watershed is located within an area that expects major economic growth. To meet the present and future demands for recreation, more recreational facilities will have to be planned and installed. Sylacauga will be the southern terminal of the planned Talladega scenic drive that traverses the Talladega Mountains. This scenic drive development will place further demands on recreational facilities within the watershed. Cheaha State Park, the nearest major park to the watershed, is located approximately 30 miles to the northeast. Family-type recreation to include camp sites, swimming, nature trails, etc., is needed. Water impoundments, provided by this plan, within the National Forest lands offer an opportunity for recreational facilities to help meet these growing recreational demands.

PROJECTS OF OTHER AGENCIES

The Alabama Power Company has constructed the Lay Dam, a hydroelectric project, located approximately 45 miles south of Childersburg on the Coosa River. The normal pool from this dam at the confluence of the Coosa River and the Tallaseehatchie Creek is at elevation 399.0. This water surface elevation extends up the Tallaseehatchie Creek for about 4 miles. The Alabama Power Company has a flowage easement to elevation 408.0 mean sea level, which is considered to be a 10-year frequency storm elevation on the Coosa River. Flood plain area below elevation 408.0 along Tallaseehatchie Creek was not included in the total benefited area. Storms greater than the 10-year frequency are lower in elevation in this area now because of flood control provided by the recently constructed Logan Martin Dam located 10 miles upstream on the Coosa River.

Sylacauga's existing Lake Howard, which is the municipal and industrial water supply reservoir, will be benefited by the sediment and floodwater protection provided by the three floodwater retarding structures located upstream from it.

PROJECT FORMULATION

The Tallaseehatchie Creek Watershed project is formulated to accomplish the following objectives of the sponsors:

1. Accelerate land treatment planning and application in order to reduce erosion and storm runoff from all lands within the watershed.

2. Reduce by 70 percent average annual floodwater damages to resources along Tallaseehatchie Creek and its tributaries and reduce the frequency and magnitude of flooding in order to more effectively utilize the flood plain for row crops, hay, and improved pasture.
3. Provide 1,000 acre-feet of future municipal water for the City of Sylacauga.
4. Provide a satisfactory outlet for the City of Sylacauga's downtown area floodwaters and provide urban protection to industries and other works of improvement existing along the proposed outlet channel.
5. Provide immediate and long-range job opportunities for unemployed and underemployed available labor resources.

The project objectives are met as follows:

1. Total land treatment needs were estimated from the present land use and records of land treatment work already planned and installed on cooperating farms. Accomplishments to date were subtracted from total needs. Remaining needs were further adjusted by applying a compliance factor. The present going rate of planning and application was taken from these future needs and the remainder is the acceleration needed during the installation period in order to accomplish the land treatment objectives.

   The forest land treatment program was developed from a field survey of the watershed and is based on needs over that supplied by the going program. The program is limited by expected landowner participation and the length of the installation period.

   Approximately 95 percent of the woodland is well stocked with trees, most of which are desirable humus-building and soil-protecting species. These will insure that the present hydrologic condition will improve under adequate protection and management.

   The 1969 state fire loss index goal is 0.25 percent. The average burn record for 1963 through 1967 was 2.34 percent. This does not meet the small watershed goal of 0.20 percent. A program is included in this plan to bring the percent burn record within allowable limits. This program includes a fire prevention contactor and a suppression unit of a truck-tractor-plow equipped with a two-way radio.

   National forest fire protection will continue to keep pace with needs for the various resources and will be determined by the master fire plans which are reviewed and revised at 5-year intervals.

2. After considering adequate land treatment, there still remained excessive runoff which had to be controlled in order to give the flood protection desired. The system of structural measures provided for in this plan gave a 55-percent reduction in floodwater damages to the agricultural areas. The floodwater damages in the urban areas were reduced 90 percent, giving an average project-wide reduction in floodwater damages of 70 percent.

3. In 1955 the City of Sylacauga retained an engineering firm to determine the most economical means of obtaining municipal and industrial water. The result of this study indicated that surface impoundment in what is presently know as Lake Howard was needed. The engineering firm found the water flowing into Lake Howard to be of very high quality. One reason for this is that most of this water drains from National Forest land which has relatively good hydrologic cover conditions and no significant sources of pollution.

   Recognizing the future growth of the area and the need of additional water to meet this growth, Sylacauga again retained a consulting engineer to determine the future water needs. This study showed that an additional 1,000 acre-feet of impounded water will be needed to meet their future demands.

   The consulting engineer selected Site No. 1 as the most desirable structure for storing this future water supply. The site met all the requirements of (1) state health requirements for public use, (2) volume of storage, (3) adequate watershed yield, and (4) suitable foundation.

4. The City of Sylacauga as co-sponsors of this plan expressed an urgent need for a flood study of the major drainage patterns within the city. Included in this request was a needed study to find a satisfactory outlet for the floodwaters that cause damage within the downtown urban renewal area. The urban renewal project has progressed to a point where the engineers must be provided with the location of a satisfactory outlet before they can continue with the design of their internal storm drainage system. The channel improvement planned herein met the objectives by (1) providing an outlet for the downtown area floodwater and (2) providing protection to all industries and other works of improvement along the channel route.

5. During the construction phase of developing this project, local labor will be used. The income to these previously unemployed will stimulate economic growth to the area. Once the construction phase is over, local labor will be used to operate and maintain the works of improvement. Giving work to the unemployed labor resources will meet the objective of this plan.

WORKS OF IMPROVEMENT TO BE INSTALLED

Land Treatment Measures

A land treatment program that will reduce erosion, sediment, and the rate of runoff is a primary objective of the watershed sponsors. The estimated acreages of the major land uses and the cost to adequately treat these acreages are shown in Table 1. Soil surveys which are used as a basis for determining the suitable land treatment have been completed in the Talladega County portion of the watershed. The portion of the watershed in Clay County is mainly within National Forest lands. Soils maps of a general nature are available in Clay County and are being used as a basis for determining suitable land treatment.

Alternative combinations of practices on the 3,830 acres of cropland to be treated include conservation cropping systems, crop residue management, gradient and parallel terraces, grassed waterways, and drainage mains and laterals. The 9,122 acres of grassland to be treated will receive land treatment measures that include ponds, pasture and hayland planting, pasture and hayland management, and drainage mains and laterals.

Land treatment measures on forest land will reduce runoff and prevent erosion by stabilizing the soil. Forest litter produced under proper forest management and protection is the source of a good humus layer needed to increase infiltration rates and water storage capacity.

Land treatment measures for National Forest land include critical area stabilization for 34 acres of roadbank, logging roads, skid trails, and other selected areas; tree planting and seeding on 1,000 acres; and stand improvement measures on 6,000 acres.

The land treatment measures for private lands include tree planting, 900 acres; stand improvement, 1,250 acres; and a Cooperative Forest Fire Control Program on 65,600 acres. A fire control program will be set up and will consist of financing a fire prevention contactor and truck-tractor-plow unit. The Cooperative Forest Fire Control Program will accelerate and improve the going fire detection and suppression activities during the length of the installation period.

Structural Measures

Structural measures consist of six single-purpose floodwater retarding structures, one multiple-purpose (floodwater retarding and municipal water) structure, and about 29.8 miles of stream channel improvement. The planned locations of the structural works of improvement are shown on the project map, and the details of each structural measure are shown on Tables 3 and 3A.

All floodwater retarding structures will be earth-fill dams with reinforced concrete principal spillways and are planned to have an effective life of 100 years. The embankments, emergency spillways, and borrow areas above normal pool elevation will be established in suitable vegetative cover. All single-purpose floodwater retarding structures, except Structure Nos. 4 and 6, have the principal spillway crest set at the elevation of the 50-year sediment pool. The 50-year sediment pool in Structure Nos. 4 and 6 produced undesirable impoundments; therefore, to correct this condition, the state conservationist approved raising the principal spillway crest to the 100-year sediment pool elevations.

Private engineers retained by the City of Sylacauga estimated that 1,000 acre-feet of additional water storage in multiple-purpose Structure No. 1 are needed to meet the future demands of Sylacauga. Multiple-purpose Structure No. 1 will be rip-rapped on the upstream side in the area subject to wave action and water level fluctuation and on the downstream toe to protect the embankment from high water wave action in Lake Howard. A gate will be provided in the riser of Structure No. 1 to release the municipal water.

The total drainage area controlled by all structures is 39,085 acres or 30 percent of the entire watershed area. These structures provide for the detention of 22,235 acre-feet of floodwater, which average 6.8 inches of runoff from the areas above the dams or 2.04 inches from the entire watershed.

Channel improvement in the agricultural areas will consist of channel enlargement, realignment, and clearing the channel which involves removing logs, trees, brush, and other debris from within the wetted perimeter of the channel. Overhanging trees that are in danger of falling into the channel will be removed even though their base may be outside the wetted perimeter of the channel. The channel is designed to carry within banks the discharge from approximately a 0.5-year frequency storm.

Channel improvement planned for the City of Sylacauga consists of channel enlargement and realignment to carry the water around a textile mill rather than under the mill as present. The channel improvement will begin at Third Street, which will be the point where internal storm drainage lines from within Sylacauga will terminate. The internal drainage system will outlet into a closed conduit which is planned to convey the floodwaters under several railroad tracks and by a defense plant. The closed conduit will end at Sixth Street. From Sixth Street to Shirtee Creek, the floodwaters will flow through open channel. From Sixth Street to Norton Avenue, the channel banks will be lined with rip-rap. From Norton Avenue to approximately 300 feet below Virginia Avenue, there will be a concrete-lined channel. From Virginia Avenue to approximately 100 feet below Avondale's pumping station, the channel banks will be lined with rip-rap. From just below the pumping station to the confluence of Shirtee Creek, the channel will be as excavated. Alternate systems of removing the floodwater were examined; however, the system outlined above was found to be the least costly.

The urban channel system is designed to carry within banks the runoff from a 100-year frequency storm from the area north of Fort Williams Street as shown on the urban flood plain map.

Approximately 32 grade stabilization structures are planned as appurtenances to the constructed channels on all creeks except Emauhee and Fourmile. These structures are planned as rock rip-rap overfalls with a reduced cross-sectional area through the control section. These structures are located as needed to maintain a stable velocity in improved sections of the channels. Locations of these structures are as shown in footnotes of Table 3A.

The installation of the dams will require (1) the closing of county dirt roads located in the flood pools of Structure Nos. 1, 2, and 4 during flood stage; (2) the building of a bridge over the permanent pool in Structure No. 1; and (3) the removal of one building from the flood pool of Structure No. 4.

The installation of channel improvement in the urban area will require the enlarging of nine road or street culverts, reinforcing one railroad trestle,

enlarging one railroad trestle, reinforcing or altering approximately 16 sewer or gas lines, and relocating 15 utility poles.

The installation of channel improvement in the agricultural area will require reinforcing abutments of four road bridges and constructing two new road bridges.

EXPLANATION OF INSTALLATION COSTS

Land Treatment Measures

The total cost of installing land treatment measures is estimated to be $976,735 of which $95,150 will be borne from P. L. 566 funds and $881,585 from Other funds (Table 1).

The P. L. 566 funds include $40,000 to accelerate technical assistance of conservation planning and application of essential conservation practices. This assistance will be provided by the Soil Conservation Service. Included in the P. L. 566 funds is $47,000 of accelerated technical assistance for forest land treatment, which will be provided by the U. S. Forest Service. P. L. 566 funds also provided $8,150 for cost sharing in the purchase of fire suppression equipment. The purchase of this equipment will be cost shared on a 50-50 basis.

Other funds include $10,500 for technical assistance provided under the going program of the Soil Conservation Service. The Alabama Forestry Commission will provide $7,000 for accelerated technical assistance and $8,150 for purchase of fire suppression equipment. The going Cooperative Forest Management Program will provide additional technical assistance valued at $1,000; the going Cooperative Forest Fire Control Program will provide a capital outlay of $9,840 to accelerate and improve the going fire control program. The U. S. Forest Service estimates that they will use $96,745 on land treatment measures on National Forest lands. Of this, $80,000 will come from regular funds and $16,745 from supplemental funds.

The remaining Other funds, $748,350, will be supplied by the landowners for the cost of labor, machinery, and materials necessary in the installation of the land treatment measures. Cost sharing assistance for these land treatment measures may be available through the Agricultural Conservation Program.

The costs of installing the forestry phases of the private land program were developed by the Alabama Forestry Commission and the U. S. Forest Service. The technical assistance costs were figured on the present costs of the going Cooperative Forest Management Program. The costs of installing measures were computed from present prices paid by landowners or operators to establish individual measures in the locality. The amount of private forest land treatment measures needed to meet treatment goals was based on a field survey of the watershed, adjusted for expected landowner participation during the installation period.

The measure installation cost on National Forest lands is based on the present costs of installing the measures in the area.

Estimated Schedule of Funds to Forest Land
By Project Years

Year	P. L. 566	Other Funds		Total
		Supplemental U.S.F.S.	All Other Sources	
First	10,000	8,000	27,870	45,870
Second	12,000	8,745	27,930	48,675
Third	12,000	--	27,930	39,930
Fourth	12,000	--	27,930	39,930
Fifth	9,150	--	27,930	37,080
TOTAL	55,150	16,745	139,590	211,485

Structural Measures

The total structural measure installation cost is estimated to be $4,343,830 of which $3,962,330 is P. L. 566 funds and $381,500 Other funds (Table 2).

Single-Purpose Flood Prevention

The six floodwater retarding structures and approximately 29.8 miles of stream channel improvement will be installed at an estimated cost of $3,206,430 of which $2,915,020 will be financed from P. L. 566 funds and $291,410 from Other funds.

The P. L. 566 funds include $2,719,550 for construction and $195,470 for engineering. The construction cost will be used for constructing the six floodwater retarding structures, $916,280, and constructing the 29.8 miles of channel improvement, $1,803,270. Included in the channel improvement cost is $191,100 for installing 32 grade stabilization structures as appurtenances to the channel and $4,800 for reinforcing abutments of four road bridges on the planned agricultural channel improvement.

Included in the Sylacauga channel construction cost is $118,400 for the enclosed conduit from Third Street to Sixth Street, $240,300 for the concrete-lined channel from Norton Avenue to just below Virginia Avenue, $69,700 for rock rip-rap along the excavated channel, and $5,900 for replacing one railroad trestle located at Station 49+50 and reinforcing the abutments of a railroad trestle at Station 113+50. The engineering cost will be used for making detailed surveys and preparing plans and specifications.

Other funds cost for land rights amounts to approximately $291,410. Included in this cost is $57,100 for constructing new or enlarging 11 road bridges or culverts; $34,000 for cost associated with ballast, ties, power lines, etc., of five railroad locations; and $4,000 for altering 16 sewer and gas lines and 15 utility poles.

Multiple-Purpose Flood Prevention and Municipal Water Supply

The estimated total installation cost of multiple-purpose Structure No. 1 is $599,160 of which $522,000 will be paid by P. L. 566 funds and $77,160 by Other funds.

The P. L. 566 funds include $492,450 for construction and $29,550 for engineering. The construction cost will be used for constructing that portion of Structure No. 1 allocated to flood prevention. The engineering cost will be used for making detailed surveys and preparing plans and specifications for that portion allocated to flood prevention.

Other funds cost of $77,160 includes $55,530 for construction, $3,330 for engineering, and $18,300 for land rights. Included in the land rights cost is $8,000 for the construction of a bridge across the normal pool of Structure No. 1.

The Use of Facilities Method was used to allocate joint construction cost; and as a result, 9.47 percent of the construction cost, $51,530, was allocated to municipal water and 90.53 percent, $492,450, to flood prevention. A specific cost of $4,230 was added to the joint construction cost for the installation of a single-purpose municipal water headgate.

Project Administration

Project administration cost includes the cost of contract administration, review of engineering plans prepared by others, construction surveys, and inspection services cost during the construction of the structural measures. Total project administration cost of $538,240 includes $525,310 to be borne by P. L. 566 funds and $12,930 to be paid for by the local organizations. Included in the local organizational share is cost for administering the contracts which includes cost for legal services, advertising for bids, and other administrative cost in handling contracts. Also included in the $12,930, local organizational cost,is an estimated $5,000 for construction inspection to install municipal water storage in Site No. 1.

Costs

The construction cost for each structural measure is the estimated cost of all materials and labor necessary for the installation of that measure. The unit price assigned each quantity is based on local prevailing prices (1969) and previously constructed projects. A contingency of 12 percent was added to cover unforeseen items of cost during construction.

Schedule of Obligations

An estimated schedule of funds by project years is as follows:

Project Year	P. L. 566 Funds	Other Funds	Total
First			
Land Treatment	15,700	126,080	141,780
Structural	304,820	5,940	310,760
Subtotal	320,520	132,020	452,540

Project Year	P. L. 566 Funds	Other Funds	Total
Second			
Land Treatment	17,750	126,080	143,730
Structural	812,650	229,830	1,042,480
Subtotal	830,400	355,910	1,186,310
Third			
Land Treatment	17,750	126,080	143,830
Structural	516,490	9,480	525,970
Subtotal	534,240	135,560	669,800
Fourth			
Land Treatment	17,700	126,080	143,780
Structural	835,970	14,690	850,660
Subtotal	853,670	140,770	994,440
Fifth			
Land Treatment	14,850	126,080	140,930
Structural	692,210	102,110	794,320
Subtotal	707,060	228,190	935,250
Sixth			
Land Treatment	5,700	125,650	131,350
Structural	548,960	15,170	564,130
Subtotal	554,660	140,820	695,480
Seventh			
Land Treatment	5,700	125,535	131,235
Structural	251,230	4,280	255,510
Subtotal	256,930	129,815	386,745
TOTAL	4,057,480	1,263,085	5,320,565

This schedule is estimated based on expected future involvement; however, it is subject to change depending upon the availability of funds and the local organizations' ability to acquire land rights for structural measures.

Multiple-purpose Structure No. 1, which includes municipal water for the City of Sylacauga, is scheduled to be installed during the fifth project year. The advance of funds in the amount of $58,860 will be needed at that time by The Utilities Board of the City of Sylacauga to finance their share of the installation cost.

EFFECTS OF WORKS OF IMPROVEMENT

Land treatment measures planned will reduce erosion, increase infiltration rates, and assure the realization of benefits used in the justification of the structural works of improvement.

The structural measures will benefit 9,783 acres of flood plain. The average annual acres flooded will be reduced from 12,410 to 5,798, a

reduction of 6,612 acres flooded annually. The project is designed to carry within channel banks the discharge from a 200-percent chance storm. The 10-year frequency storm, one of which occurred in 1951 and was considered a major damaging storm event by the local people, will inundate 7,778 acres after project installation as compared to 9,167 acres flooded in 1951. The damages from a storm of this size, excluding damages within the City of Sylacauga, will be reduced by 31.4 percent or from $124,160 to $85,200.

The reduction in acres flooded and frequency of flooding will allow farmers to restore 373 acres to former productivity, make a change of land use on 934 acres, and more intensively use 2,160 acres. This change in cropping pattern will be one of taking the row crops off the upland and returning them to the flood plain. The upland acres being taken out of crops will be established to a more suitable cover of grasses, legumes, or trees.

The planned floodwater retarding structures will reduce the flood stage of the larger storms within the damaged areas of Childersburg; however, because of the larger uncontrolled area, the flooding in Childersburg will not be eliminated. The flood stages in Childersburg caused by the Coosa River are such that portions of the town will be flooded on the larger storms. As indicated by the mayor, the City of Childersburg has future plans to zone and prevent further development within the flood plain.

The Sylacauga channel is planned to carry within banks the discharge from a 100-year frequency storm. This channel system will provide the downtown Sylacauga area with an outlet for the storm waters that flood streets, stores, and industrial concerns. Along the channel route, a defense plant with an employment of 1,200 workers will receive flood protection which will reduce floodwater damages to building and machinery and will allow for continuous plant operation.

Avondale Mills, a textile plant with an employment of approximately 2,000, will also be protected from the 100-year frequency storm. The channel as planned will carry the floodwaters around the mill, thereby preventing flood damages to buildings, goods, amd machinery. Businesses, homes, and other fixed improvements along the channel route will also receive flood protection from the channel improvement.

Floodwater retarding Structure Nos. 1, 2, and 3 are located above Lake Howard and are designed to store most of the runoff from a 100-year frequency storm. The 100-year frequency storm discharge at Lake Howard will be reduced from approximately 31,888 cubic feet per second to 6,974 cubic feet per second, which provides the opportunity for the sponsors to add 650 acre-feet of storage in Lake Howard. This additional storage can be obtained by raising the crests of their spillways.

The effective storage of Lake Howard will be increased by the retention of sediment in the three upstream sites. This means that Lake Howard will have 1,035 acre-feet of effective storage at the end of the evaluation period that it would not have without the project. Not only will the sediment be held out of Lake Howard, but there will be a reduction in the sediment to be filtered from the municipal water.

The future water supply for the City of Sylacauga will meet the demands of a 67-percent projected population growth of from 15,000 now to 25,000 in 1990. There is a capacity in the total future water storage to meet a demand of over two times that expected in 1980.

The Forest Service will provide recreational facilities at Sites 1 and 4 at such times as funding priorities permit. These facilities will provide for swimming, fishing, boating, camping, picnicking, sight-seeing, and hiking at a cost of approximately $207,000. This will be contingent upon water quality and environmental protection acceptable to sustain this wide range of recreational activity. The water quality at present was considered and found to be adequate for the intended uses. These sites will provide for 73,200 visitor-day activities. The topography around both these is well suited for establishing a full recreational development. There are presently existing roads which give good access to both the impoundment areas. Sanitary facilities will be installed to meet the estimated demands and will meet federal, state, and local health regulations. The development of these two areas will help provide local recreational needs and supply the recreational demands placed on the area by the proposed Talladega scenic drive.

Sediment damage to the flood plain will be reduced by approximately 86 percent. The damaged area will require from 5 to 10 years to recover and will recover 95 to 100 percent of its productive capacity.

Scour damage will be reduced by approximately 86 percent. The damaged area will require from 6 to 15 years to recover its original productive capacity.

Installation of the structural measures will provide a reduction in floodwater damages of 55 percent to the agricultural areas and 90 percent to the nonagricultural areas giving an average project-wide reduction in floodwater damages of 70 percent.

Structural works of improvements will benefit approximately 64 downtown businesses, one national defense plant with an approximate employment of 1,200, one textile mill with approximately 2,000 employees, and approximately 120 flood plain landowners who are directly affected by floodwaters. In addition, approximately 19,000 people will be directly benefited from the 1,000 acre-feet of municipal water stored in Structure No. 1 and 73,200 visitor-days of recreation annually expected from Structure Nos. 1 and 4.

Installation of the works of improvement will provide for approximately 160 man-years of employment during the installation period. Approximately two man-years of labor will be needed each year thereafter to operate and maintain the works of improvement.

The landowners on whose land floodwater retarding structures are located will be encouraged to stock and manage the permanent pool reservoirs with fish in accordance with current Alabama Department of Conservation recommendations. Public access is planned for Structure Nos. 1 and 4 around which the U. S. Forest Service plans to install recreational facilities.

Although some 1,000 acres of forest land will be removed to accommodate the installation of channel improvements and impoundments, they will be compensated by an increase in forest land for a net gain of about 400 acres.

PROJECT BENEFITS

The estimated average annual floodwater, sediment, erosion, and indirect damages (Table 5) will be reduced from $226,981 to $60,899 by the proposed project. Included in the flood damage reduction benefits is $40,031 to crops and pasture of which $12,406 accrues to restoration of former productivity. Also included are $59,389 to urban areas; $15,682, other agriculture; $11,050, roads and bridges; $6,637, sediment; $1,023, erosion; and $32,270, indirect benefits. Land treatment measures account for $5,344, and structural measures account for $160,738 of the flood reduction benefits (Table 6).

Incidental recreational benefits are estimated to be $26,690 annually. These benefits will accrue to the project as a result of recreational facilities the U. S. Forest Service plans to install around Structure Nos. 1 and 4.

Benefits accruing to the storage of 1,000 acre-feet of future municipal and industrial water amount to $7,685 annually.

Changed land use benefits resulting from the installation of project measures amount to $19,291 annually.

More intensive land use benefits are estimated to be $15,449 annually.

Redevelopment benefits of $49,485 annually will accrue as a result of wages paid to unemployed and underemployed labor used in the installation, operation, and maintenance of the project measures.

The value of local secondary benefits amounts to $23,207 annually. They accrue as a result of increased business activity and improved economic conditions which are induced by and stem from the installation of project measures.

In addition to the monetary benefits evaluated, other intangibles are expected. Improved farming conditions in the flood plain will stimulate the overall farming economy by making more efficient use of farm resources. The added supply of municipal water included in multiple-purpose Structure No. 1 will increase opportunities for industrial, business, and residential growth. The owners of businesses in Sylacauga at present are on continuous alert against floodwaters entering their stores. During periods of heavy rainfall, the store owners use sandbags and boards to block these floodwaters. Installation of the Sylacauga channel will eliminate the drudgery of this constant watch.

The proposed forest land treatments will improve the hydrologic conditions and productivity of the forest land. This will retard storm runoff and reduce sediment. Good management and continued fire protection will increase productivity of the forest land.

COMPARISON OF BENEFITS AND COSTS

The average annual cost of planned structural measures, including operation and maintenance cost, is estimated to be $231,000. The benefit-cost ratio will be 1.3:1. This includes local secondary benefits of $23,207 annually (Table 6). The benefit-cost ratio without local secondary benefits would be 1.3:1.

PROJECT INSTALLATION

Land Treatment Measures

Land treatment measures planned for private and commercially-owned lands will be installed during a 7-year period by the individual landowners in cooperation with the Talladega and Clay County Soil and Water Conservation Districts. These soil and water conservation districts, with technical assistance from the Soil Conservation Service, will assist in the planning and application of these land treatment measures.

Forest landowners will be encouraged to apply and maintain the best forestry measures on their forest lands. The U. S. Forest Service, in cooperation with and through the Alabama Forestry Commission, will provide technical assistance in the planning and application of forest land treatment measures under the going Cooperative Forest Management Program. They will provide additional technical assistance with P. L. 566 funds for accelerating the preparation of forest watershed management plans which are a part of the conservation farm plans. These funds will also accelerate the installation of forestry measures during the installation period.

The U. S. Forest Service will install the land treatment measures planned on National Forest lands. Program accomplishment is contingent on the availability of Forest Service funds for this purpose.

A forester trained in watershed management will be assigned to this project to assist and guide the landowners in the installation of the planned measures. He will recommend special measures in forested areas in the flood plain. Some problems that he will watch for are down material and hazardous trees that can float or fall in the streams. Such material can cause downstream damming during flood periods and increase flood damage. These problems will be significant along channels where no improvement measures are planned. When the forester is preparing a watershed forest management plan, he can point out trees that are in danger of falling due to streambank erosion or wind. He will also recommend to the landowner the most effective and economical means of disposal of material that constitutes a downstream hazard. Forested areas along streams make excellent infiltration zones and sediment traps. The forester will recommend cutting methods that will maintain and improve the protective forest cover along the streams.

Structural Measures

Structural measures will be installed during the 7-year installation period. Talladega County Commissioners Court will administer the contracts on all

floodwater retarding structures and channel improvement except Structure No. 1 and the Sylacauga channel improvement. The contract for Structure No. 1 will be let and administered by The Utilities Board of the City of Sylacauga, and the Sylacauga channel improvement contract will be let and administered by the City of Sylacauga.

The Soil Conservation Service will provide engineering services on all structural measures except Structure No. 1. The Utilities Board of the City of Sylacauga will retain private engineers approved by the Soil Conservation Service to design and draw up plans and specifications for multiple-purpose Structure No. 1. Construction surveys and construction inspection of Structure No. 1 will be performed by the Soil Conservation Service. The Utilities Board will perform whatever construction inspection is necessary for installing the municipal water portion of the structure. The cost for installing multiple-purpose Structure No. 1 will be shared as outlined in the section "Explanation of Installation Costs."

Land rights needed for all structural measures will be obtained during the first six years of the installation period. The Tallaseehatchie Creek Watershed Conservancy District will be responsible for obtaining all land rights except those needed for installing the Sylacauga channel improvement and multiple-purpose Structure No. 1. The City of Sylacauga will be responsible for obtaining all land rights on the Sylacauga channel. The Utilities Board of the City of Sylacauga will be responsible for obtaining land rights for multiple-purpose Structure No. 1. Use permits will be acquired for the land rights which are located on National Forest land. Assistance in obtaining land rights will be provided by the Talladega and Clay County Soil and Water Conservation Districts, Talladega County Commissioners Court, and the Court of County Commissioners, Clay County.

Talladega County Commissioners Court will be responsible for (1) closing dirt roads in the flood pools of Structure Nos. 1, 2, and 4; (2) building a bridge over the permanent pool in Structure No. 1; and (3) building a bridge on Crooked Creek.

The Utilities Board of the City of Sylacauga will be responsible for building a new bridge to Lake Howard which crosses Crooked Creek. The City of Sylacauga will be responsible for (1) enlarging nine road or street culverts, (2) altering 16 sewer and gas lines and 15 utility poles, and (3) providing all ballast, rails, ties, telegraph lines, power lines, signal systems, or any features not directly associated with the structural stability of three railroad culverts and two railroad trestles.

The following schedule of installation is based on the needs and desires of all sponsors:

Project Year	Structural Measure
First	Floodwater Retarding Structure Nos. 6 and 7
Second	Sylacauga Channel and Shirtee Creek Channel
Third	Floodwater Retarding Structure Nos. 4 and 9
Fourth	Wewoka Creek Channel and Floodwater Retarding Structure Nos. 2 and 3

Project Year	Structural Measures
Fifth	Multiple-Purpose Structure No. 1 and Crooked Creek Channel
Sixth	Tallaseehatchie Creek (Main Stem) and Emauhee Creek Channels
Seventh	Fourmile Creek Channel

This schedule may be changed as necessary except that in most cases floodwater retarding structures will be scheduled for installation prior to channel improvement. There is great need to install the Sylacauga channel improvement as soon as possible. During the first project year, the design of the Sylacauga urban channel will be made.

FINANCING PROJECT INSTALLATION

Federal assistance for carrying out the planned works of improvement described in this work plan will be provided under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress, 68 Stat. 666) as amended. This financial and technical assistance to be furnished by the Soil Conservation Service and the U. S. Forest Service is contingent upon the appropriation of funds for this purpose and the sponsors' meeting their obligations.

All land treatment measure costs on private lands will be borne by the individual landowners. It is expected that cost sharing assistance will be available under the going Agricultural Conservation Program.

The U. S. Forest Service will finance installation of land treatment measures on National Forest lands through regular program funds and supplemental funds.

The cost of installing the municipal water portion of multiple-purpose Structure No. 1 will be borne by The Utilities Board of the City of Sylacauga. The Utilities Board plans to use section 8 of P. L. 566 to finance this municipal water storage cost. A letter of intent has been filed with the State Director of the Farmers Home Administration for the purpose of negotiating an advance in the amount of approximately $58,860, and the Director has tentatively concurred in the advance. This amount is to be used for construction cost, engineering services, land rights as needed, and project administration. This amount does not exceed 30 percent of the total installation cost.

The Utilities Board of the City of Sylacauga will enter into an agreement for repayment of the advance approved by the Farmers Home Administration prior to the excavation of a project agreement. This advance will be rapaid with funds obtained from the sale of water. The sponsors intend to use the municipal water within the life of the structure.

The sponsors expect that land rights will be donated by interested landowners. Funds to finance the installation of bridge, street, and utility alterations in connection with the Sylacauga channel will come from the city's general revenue fund.

Talladega County Commissioners Court will use funds from the county's general tax revenue to finance all bridge and road alterations.

PROVISIONS FOR OPERATION AND MAINTENANCE

Land treatment measures, including forest land treatment, will be maintained by landowners or operators in accordance with their individual cooperative agreements with the Clay and Talladega County Soil and Water Conservation Districts. The Alabama Forestry Commission, in cooperation with the U. S. Forest Service, will furnish the technical assistance necessary for operating and maintaining the forest land treatment measures under the going Cooperative Forest Management Program. Fire protection will also be continued under the going Cooperative Forest Fire Control Program.

The U. S. Forest Service will operate and maintain the land treatment measures on National Forest land in accordance with the multiple-use and sustained yield management principles.

All works of improvement except multiple-purpose Structure No. 1 and the Sylacauga channel improvement will be operated and maintained by the Talladega County Commissioners Court. The estimated annual cost of operating and maintaining these measures during the project life is $12,086. Funds to finance this cost will come from general tax revenues.

Multiple-purpose Structure No. 1 will be operated and maintained by The Utilities Board of the City of Sylacauga. The annual cost to operate and maintain this measure is $2,448. Funds to finance this operation and maintenance will come from the sale of municipal water.

The Sylacauga channel improvement will be operated and maintained by the City of Sylacauga. The estimated annual cost of operating and maintaining this measure is $2,880. Funds to finance this cost will come from the city's general revenue funds.

The Tallaseehatchie Creek Watershed Conservancy District, with consultive assistance from the Talladega County Soil and Water Conservation District, will assist in the operation and maintenance of all structural measures. Maintenance which can be accomplished with normal farm equipment such as removal of debris, control of undesirable vegetation, controlled grazing and mowing, and fertilizing vegetation will be performed or arranged for by the Tallaseehatchie Creek Watershed Conservancy District. Major maintenance such as channel cleanout and repair of damage to emergency spillways, but not limited to these, will be performed by the Talladega County Commissioners Court.

The sponsoring local organizations and a representative of the Soil Conservation Service will make a joint inspection annually, after severe floods, and after the occurrence of any other unusual condition which might adversely affect the structural measures for a period of three years following the installation of each structural measure. Inspections after the third year will be made annually by the sponsors. A report of the inspection will be

prepared and a copy will be sent to the Soil Conservation Service employee responsible for operation and maintenance inspections and follow up.

Items of inspection for dams will include, but not be limited to, the condition of the principal spillway, embankment, emergency spillway, vegetative cover, and other appurtenances of the structure. For channel improvement measures, items of inspection will include, but not be limited to, the degree of scour, sediment deposition, bank erosion, and obstructions to flow caused by debris accumulation.

Specific operation and maintenance agreements will be executed prior to issuance of invitations-to-bid on all structural measures.

TABLE 1 - ESTIMATED PROJECT INSTALLATION COST
Tallaseehatchie Creek Watershed, Alabama

Installation Cost Item	Unit	Number			Estimated Cost (Dollars) 1/						
					P. L. 566 Funds			Other			
		Fed. Land	Non-Fed. Land	Total	Fed. Land	Non-Fed. Land	Total	Fed. Land	Non-Fed. Land	Total	TOTAL
Land Treatment											
Soil Conservation Service											
Cropland	Ac.		3,830	3,830					162,850	162,850	162,850
Grassland	Ac.		9,122	9,122					548,200	548,200	548,200
Wildlife	Ac.		51	51					3,700	3,700	3,700
Technical Assistance						40,000	40,000		10,500	10,500	50,500
SCS Subtotal						40,000	40,000		725,250	725,250	765,250
Forest Service											
Flood Prevention											
Critical Area Stabilization	Ac.	34		34				16,745		16,745	16,745
Watershed Protection											
Forest Land	Ac.	7,000	2,150	9,150				80,000	33,600	113,600	113,600
Coop. Forest Fire Control	Ac.		65,600	65,600		8,150	8,150		17,990	17,990	26,140
Technical Assistance						47,000	47,000		8,000	8,000	55,000
FS Subtotal						55,150	55,150	96,745	59,590	156,335	211,485
TOTAL LAND TREATMENT						95,150	95,150	96,745	784,840	881,585	976,735
Structural Measures											
Construction											
Soil Conservation Service											
Floodwater Retarding Str.	No.	3	3	6	604,730	311,550	916,280				916,280
Multiple-Purpose Str.	No.	1		1	492,450		492,450	55,530		55,530	547,980
Channel Improvement	Mi.		29.8	29.8		1,803,270	1,803,270				1,803,270
SCS Subtotal					1,097,180	2,114,820	3,212,000	55,530		55,530	3,267,530
Subtotal - Construction					1,097,180	2,114,820	3,212,000	55,530		55,530	3,267,530
Engineering Services											
Soil Conservation Service					73,940	151,080	225,020	3,330		3,330	228,350
Subtotal - Engineering					73,940	151,080	225,020	3,330		3,330	228,350
Project Administration											
Soil Conservation Service											
Construction Inspection					106,120	210,450	316,570	5,000		5,000	321,570
Other					70,120	138,620	208,740	4,230	3,700	7,930	216,670
Subtotal - Administration					176,240	349,070	525,310	9,230	3,700	12,930	538,240
Other Costs											
Land Rights									309,710	309,710	309,710
Subtotal - Other									309,710	309,710	309,710
TOTAL STRUCTURAL MEASURES					1,347,360	2,614,970	3,962,330	68,090	313,410	381,500	4,343,830
TOTAL PROJECT					1,347,360	2,710,120	4,057,480	164,835	1,098,250	1,263,085	5,320,565
Summary											
SCS Subtotal					1,347,360	2,654,970	4,002,330	68,090	1,038,660	1,106,750	5,109,080
FS Subtotal						55,150	55,150	96,745	59,590	156,335	211,485
TOTAL PROJECT					1,347,360	2,710,120	4,057,480	164,835	1,098,250	1,263,085	5,320,565

1/ Price base 1969.

DATE February 1970

TABLE 1A - STATUS OF WATERSHED WORKS OF IMPROVEMENT

(At Time of Work Plan Preparation)

Tallaseehatchie Creek Watershed, Alabama

Measures	Unit	Applied To Date	Total Cost (Dollars)[1/]
Land Treatment			
Conservation Cropping System	Ac.	2,830	84,900
Field Border	Ft.	17,400	400
Grassed Waterway or Outlet	Ac.	34	4,420
Drainage Main or Lateral	Ft.	45,700	22,850
Pasture and Hayland Planting	Ac.	5,105	241,730
Pond	No.	79	118,500
Terrace, Gradient	Ft.	74,300	3,715
Wildlife Habitat Management	Ac.	33	1,650
Tree Planting	Ac.	5,000	75,000
Woodland Improvement	Ac.	6,000	78,000
Fire Control Program	Ac.	65,600	47,200
TOTAL	XX	XX	678,365

1/ Price base 1969.

DATE February 1970

TABLE 2 - ESTIMATED STRUCTURAL COST DISTRIBUTION

Tallaseehatchie Creek Watershed, Alabama

(Dollars)[1/]

Item	Installation Cost - P. L. 566 Funds			Installation Cost - Other Funds				Total Installation Cost
	Construction	Engineering	Total P. L. 566	Construction	Engineering	Land Rights	Total Other	
Multiple-Purpose Structure No. 1								
Joint Cost	492,450	29,550	522,000	51,530	3,100	18,300[2/]	72,930	594,930
Specific Cost:								
Slide Headgate				4,000	230		4,230	4,230
Subtotal	492,450	29,550	522,000	55,530	3,330	18,300	77,160	599,160
Floodwater Retarding Structure No. 2	110,400	11,040	121,440	--	--	300	300	121,740
No. 3	184,330	14,750	199,080	--	--	2,330	2,330	201,410
No. 4	310,000	18,600	328,600	--	--	7,450[3/]	7,450	336,050
No. 6	120,180	12,020	132,200	--	--	3,300	3,300	135,500
No. 7	88,740	8,880	97,620	--	--	2,040	2,040	99,660
No. 9	102,630	10,260	112,890	--	--	1,430	1,430	114,320
Subtotal Structures	1,408,730	105,100	1,513,830	55,530	3,330	35,150	94,010	1,607,840
Channel Improvement								
Tallaseehatchie Creek	435,490	26,130	461,620	--	--	12,790	12,790	474,410
Crooked Creek	86,450	8,650	95,100	--	--	16,320[4/]	16,320	111,420
Wewoka Creek	415,520	24,930	440,450	--	--	11,160	11,160	451,610
Fourmile Creek	163,180	13,050	176,230	--	--	3,980	3,980	180,210
Shirtee Creek	211,580	16,930	228,510	--	--	7,190	7,190	235,700
Emauhee Creek	10,920	1,420	12,340	--	--	1,780	1,780	14,120
Sylacauga Channel	480,130	28,810	508,940	--	--	221,340[5/]	221,340	730,280
Subtotal Channel Improvement	1,803,270	119,920	1,923,190	--	--	274,560	274,560	2,197,750
Subtotal	3,212,000	225,020	3,437,020	55,530	3,330	309,710	368,570	3,805,590
Project Administration			525,310				12,930	538,240
GRAND TOTAL	3,212,000	225,020	3,962,330	55,530	3,330	309,710	381,500	4,343,830

1/ Price base 1969.
2/ Includes $8,000 for construction of new bridge.
3/ Includes $1,000 for removal of barn from flood pool.
4/ Includes $10,200 for construction of two new bridges.
5/ Includes $84,900 for fixed improvements.

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TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY

Tallaseehatchie Creek Watershed, Alabama

(Dollars)[1/]

Item	COST ALLOCATION			COST SHARING					
				P. L. 566			Other		
	Flood Prevention	Municipal Water Supply	Total	Flood Prevention	Municipal Water Supply	Total	Flood Prevention	Municipal Water Supply	Total
Single-Purpose Flood Prevention Structure Nos. 2, 3, 4, 6, 7, 9	1,008,680	--	1,008,680	991,830	--	991,830	16,850	--	16,850
Flood Prevention Channel Improvement	2,197,750	--	2,197,750	1,923,190	--	1,923,190	274,560	--	274,560
Multiple-Purpose Structure No. 1									
A. Joint Cost	538,400	56,530	594,930	522,000	--	522,000	16,400	56,530	72,930
B. Specific Cost	--	4,230	4,230	--	--	--	--	4,230	4,230
Subtotal Structure No. 1	538,400	60,760	599,160	522,000	--	522,000	16,400	60,760	77,160
TOTAL	3,744,830	60,760	3,805,590	3,437,020	--	3,437,020	307,810	60,760	368,570

1/ Price base 1969.

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TABLE 3 - STRUCTURE DATA
FLOODWATER RETARDING STRUCTURES AND WATER SUPPLY RESERVOIRS

Tallaseehatchie Creek Watershed, Alabama

Item	Unit	FRS Structure No. 1	2	3	4
Class of Structure		c	c	c	c
Drainage Area	Sq. Mi.	23.09	3.87	5.62	21.18
Curve No. (1 Day)(AMC II)		77	77	77	77
Time of Concentration (Tc)	Hr.	4.90	1.91	3.18	6.30
Elevation Top of Dam	Ft.	645.0	648.6	620.6	572.0
Elevation Crest Emergency Spillway	Ft.	633.7	641.1	612.9	563.2
Elevation Crest High Stage Inlet	Ft.	616.6	--	597.3	--
Elevation Crest Low Stage Inlet	Ft.	593.9	608.3	573.2	523.1
Maximum Height of Dam	Ft.	106	56	68	86
Volume of Fill	Cu. Yd.	397,078	92,278	118,378	237,761
Total Capacity	Ac. Ft.	10,557	1,473	2,425	8,040
Sediment Submerged 1st 50 Years	Ac. Ft.	299[1]	69	97	372
Sediment Submerged 2nd 50 Years	Ac. Ft.	299[1]	60	86	329
Sediment Aerated	Ac. Ft.	97	12	17	66
Municipal Water	Ac. Ft.	1,000	--	--	--
Retarding	Ac. Ft.	8,862	1,332	2,225	7,273
Between High and Low Stage	Ac. Ft.	3,565	--	1,069	--
Surface Area					
Sediment Pool	Ac.	45	14[2]	14[2]	62[2]
Municipal Water Pool	Ac.	87[2]	--	--	--
Retarding Pool	Ac.	420	88	108	404
Principal Spillway					
Rainfall Volume (Areal)(1 Day)	In.	8.32	8.6	8.6	8.32
Rainfall Volume (Areal)(10 Day)	In.	15.46	15.7	15.7	15.46
Runoff Volume (10 Day)	In.	11.13	11.35	11.35	11.13
Capacity of Low Stage (Max.)	CFS	439	120	108	559
Capacity of High Stage (Max.)	CFS	775	--	198	--
Frequency Operation--Emer. Spillway	% Chance	1	1	1	1
Size of Conduit	Dim. (In.)	60	30	36	54
Emergency Spillway					
Rainfall Volume (ESH)(Areal)	In.	11.63	12.5	12.5	11.91
Runoff Volume (ESH)	In.	8.68[3]	9.51[3]	9.51[3]	8.95[3]
Type		Veg.	Veg.	Veg.	Veg.
Bottom Width	Ft.	500	300	300	600
Velocity of Flow (V_e)	Ft./Sec.	7.5	7.2	7.2	7.3
Slope of Exit Channel	Ft./Ft.	.0283	.0285	.0280	.0287
Maximum Water Surface Elevation	Ft.	636.2	643.5	615.2	565.6
Freeboard					
Rainfall Volume (FH)(Areal)	In.	28.18	30.3	30.3	28.88
Runoff Volume (FH)	In.	24.88[3]	26.98[3]	26.98[3]	25.58[3]
Velocity of Flow (Ve)	Ft./Sec.	16.7	13.7	13.8	14.8
Maximum Water Surface Elevation	Ft.	645.0	648.6	620.6	572.0
Capacity Equivalents					
Sediment Volume	In.	.56	.65	.65	.68
Retarding Volume	In.	7.20	6.45	7.42	6.44

1/ The 100-year submerged sediment total includes 120 acre feet of sediment in the municipal pool.
2/ Area of pool which will initially retain water.
3/ Antecedent Moisture Condition II.
4/ Antecedent Moisture Condition II½.

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TABLE 3 - STRUCTURE DATA
FLOODWATER RETARDING STRUCTURES AND WATER SUPPLY RESERVOIRS (Continued)

Tallaseehatchie Creek Watershed, Alabama

Item	Unit	FRS Structure No. 6	7	9	TOTAL
Class of Structure		b	b	b	
Drainage Area	Sq. Mi.	2.74	2.05	2.52	61.07
Curve No. (1 Day)(AMC II)		77	77	77	
Time of Concentration (Tc)	Hr.	1.76	1.36	1.95	
Elevation Top of Dam	Ft.	664.6	633.1	575.7	
Elevation Crest Emergency Spillway	Ft.	660.6	630.3	571.4	
Elevation Crest High Stage Inlet	Ft.	650.4	620.5	560.0	
Elevation Crest Low Stage Inlet	Ft.	636.0	598.6	538.2	
Maximum Height of Dam	Ft.	45	49	55	
Volume of Fill	Cu. Yd.	88,894	61,554	78,758	1,074,701
Total Capacity	Ac. Ft.	1,091	739	999	25,324
Sediment Submerged 1st 50 Years	Ac. Ft.	47	37	51	972
Sediment Submerged 2nd 50 Years	Ac. Ft.	42	36	44	896
Sediment Aerated	Ac. Ft.	8	12	9	221
Municipal Water	Ac. Ft.	--	--	--	1,000
Retarding	Ac. Ft.	994	654	895	22,235
Between High and Low Stage	Ac. Ft.	422	314	390	5,760
Surface Area					
Sediment Pool	Ac.	16[2]	7[2]	8[2]	166
Municipal Water Pool	Ac.	--	--	--	87
Retarding Pool	Ac.	44	28	53	1,145
Principal Spillway					
Rainfall Volume (Areal)(1 Day)	In.	7.8	7.8	7.8	
Rainfall Volume (Areal)(10 Day)	In.	14.3	14.3	14.3	
Runoff Volume (10 Day)	In.	10.04	10.04	10.04	
Capacity of Low Stage (Max.)	CFS	53	41	48	
Capacity of High Stage (Max.)	CFS	67	119	73	
Frequency Operation--Emer. Spillway	% Chance	2	2	2	
Size of Conduit	Dim.(In.)	24	30	24	
Emergency Spillway					
Rainfall Volume (ESH)(Areal)	In.	9.1	9.1	9.1	
Runoff Volume (ESH)	In.	7.03[4]	7.03[4]	7.03[4]	
Type		Veg.	Veg.	Veg.	
Bottom Width	Ft.	200	200	150	
Velocity of Flow (Ve)	Ft./Sec.	5.0	5.0	5.0	
Slope of Exit Channel	Ft./Ft.	.0366	.0273	.0269	
Maximum Water Surface Elevation	Ft.	661.9	631.3	572.7	
Freeboard					
Rainfall Volume (FH)(Areal)	In.	15.7	15.7	15.7	
Runoff Volume (FH)	In.	13.48[4]	13.48[4]	13.48[4]	
Velocity of Flow (Ve)	Ft./Sec.	9.7	8.7	10.0	
Maximum Water Surface Elevation	Ft.	664.6	633.1	575.7	
Capacity Equivalents					
Sediment Volume	In.	.66	.78	.77	
Retarding Volume	In.	6.80	5.98	6.66	

1/ The 100-year submerged sediment total includes 120 acre feet of sediment in the municipal pool.
2/ Area of pool which will initially retain water.
3/ Antecedent Moisture Condition II.
4/ Antecedent Moisture Condition II½.

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TABLE 3A - STRUCTURE DATA
CHANNELS

Tallaseehatchie Creek Watershed, Alabama

Channel (No. or Name)	Station or Reach		Drainage Area	Capacity		Water Surface	Hydraulic Gradient	Channel Dimensions			"n" Value		Velocities		Excavation	Type of Improvement[2]
	Sta. (ft.)	Sta. (ft.)	(Sq.Mi.)	Req'd (cfs)	Design (cfs)	Elev.[1]	(ft./ft.)	Bottom (ft.)	Depth (ft.)	Side Slope	Aged	As Built	Aged (ft./sec.)	As Built (ft./sec.)	Cu.Yds.	
Tallasee-hatchie	10+00	72+40	58.3	1166	1165	449.7	0.0011	24	7.5	1:1	0.030	0.025	4.9	5.9	40,000	CE
[3]	72+40	85+50	58.5	1166	1198	446.4	0.0010	26	7.5	1:1	0.030	0.025	4.8	5.7	12,200	CE
[3]	85+50	163+10	92.6	1725	1806	436.6	0.0010	40	7.5	1:1	0.030	0.025	5.1	6.1	85,600	CE
	163+10	208+30	94.0	2150	2247	432.1	0.0010	50	7.5	1:1	0.030	0.025	5.2	6.3	19,400	CE
	208+30	276+90	117.9	2400	2506	425.3	0.0010	50	8.0	1:1	0.030	0.025	5.4	6.5	55,500	CE
	276+90	329+40	127.6	2600	2602	419.8	0.0010	52	8.0	1:1	0.030	0.025	5.4	6.5	48,000	CE
	329+40	352+70	127.8	2600	2725	418.7	0.0007	A=852	WP=107	[4]	0.050	--	3.2	--	0	None
	352+70	390+95	129.0	2700	2834	416.8	0.00050	55	10.0	1:1	0.030	0.025	4.4	5.2	91,700	CE
	390+95	431+90	129.6	2700	3445	413.8	0.00074	55	10.0	1:1	0.030	0.025	5.3	6.4	37,700	CE
	431+90	455+60	174.3	4000	4050	412.0	0.00074	65	10.0	1:1	0.030	0.025	5.4	6.5	15,400	CE
	455+60	493+70	175.3	4000	4001	410.5	0.00039	65	12.0	1:1	0.030	0.025	4.3	5.2	49,500	CE
Fourmile	10+00	28+20	11.9	1000	1080	417.0	0.0017	26	6.0	1:1	0.030	0.025	5.6	6.7	13,800	CE
	28+20	114+70	14.1	1120	1160	402.3	0.0017	28	6.0	1:1	0.030	0.025	5.7	6.8	52,300	CE
	114+70	159+20	18.0	1330	1340	399.2	0.0007	40	7.0	1:1	0.030	0.025	4.1	4.9	40,400	CE
Crooked	10+00	66+70	9.3	655	718	518.2	0.0033	A=154	WP=40	[4]	0.045	--	4.7	--	1,500	C&S
[5]	66+70	127+70	13.8	655	673	496.2	0.0023	16	6.0	1:1	0.035	0.025	5.1	7.2	24,300	CE
[5]	127+70	150+10	16.1	690	713	491.0	0.0023	17	6.0	1:1	0.035	0.025	5.2	7.2	11,400	CE
	150+10	211+70	17.2	700	706	471.0	0.0028	15	6.0	1:1	0.035	0.025	5.6	7.1	26,700	CE
Emauhee	10+00	29+80	31.1	620	655	458.6	0.0015	A=182	WP=38	[4]	0.045	--	3.6	--	500	C&S
	29+80	44+30	31.9	645	669	455.1	0.0024	11	7.0	1:1	0.035	0.025	5.3	7.4	6,400	CE
	44+30	76+00	32.2	720	717	447.5	0.0024	12	7.0	1:1	0.035	0.025	5.4	7.6	2,200	CE

[1] At downstream end of reach.
[2] CE - channel enlargement
C&S - clearing and snagging
[3] Grade stabilization structures at Sta. 72+40 and 94+60 with 2-foot drops.
[4] Cross sectional area in square feet and wetted perimeter in feet below the hydraulic grade line.
[5] Two-foot drop grade stabilization structures located at Sta. 66+70, 81+95, 97+20, and 112+45.

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TABLE 3A - STRUCTURE DATA
CHANNELS (Continued)

Tallaseehatchie Creek Watershed, Alabama

Channel (No. or Name)	Station or Reach Sta. (ft.)	Station or Reach Sta. (ft.)	Drainage Area (sq.mi.)	Capacity Req'd (cfs)	Capacity Design (cfs)	Water Surface Elev.[1]	Hydraulic Gradient (ft./ft.)	Channel Dimensions Bottom (ft.)	Channel Dimensions Depth (ft.)	Channel Dimensions Side Slope	"n" Value Aged	"n" Value As Built	Velocities Aged (ft./sec.)	Velocities As Built (ft./sec.)	Excavation cu.yds.	Type of Improvement[2]
Wewoka[3]	10+00	83+80	24.3	1430	1469	473.7	0.0013	32	7.0	1:1	0.030	0.025	5.4	6.5	55,000	CE
[3]	83+80	167+50	34.1	1850	1865	458.8	0.0013	41	7.0	1:1	0.030	0.025	5.6	6.7	101,600	CE
[4]	167+50	196+00	34.4	1880	1643	457.2	0.0002	60	8.0	1:1	0.025	0.020	3.0	3.7	36,600	CE
	196+00	246+00	35.1	1880	3910	441.2	0.0032	A=584	WP=75	[5]	0.050	--	6.7	--	0	None
[3]	246+00	290+00	35.6	1880	1920	429.9	0.0012	44	7.0	1:1	0.030	0.025	5.4	6.5	21,400	CE
[3]	290+00	331+00	41.7	2080	2102	421.0	0.0012	48	7.0	1:1	0.030	0.025	5.5	6.5	47,100	CE
	331+00	386+00	44.3	2080	2104	413.9	0.0011	40	8.0	1:1	0.030	0.025	5.5	6.6	14,700	CE
Shirtee[6]	10+00	60+00	12.4	950	962	495.1	0.0015	25	6.0	1:1	0.030	0.025	5.2	6.2	20,800	CE
[7]	60+00	76+00	16.6	2025[8]	2041	492.7	0.0012	47	7.0	1:1	0.030	0.025	5.4	6.4	7,000	CE
	76+00	101+80	16.9	1400	1616	466.7	0.0100	A=202	WP=54	[5]	0.045	--	8.0	--	0	None
[6]	101+80	141+00	18.4	1400	1411	454.0	0.0012	32	7.0	1:1	0.030	0.025	5.2	6.2	23,800	CE
[6]	141+00	236+00	20.6	1525	1560	432.0	0.0011	32	7.5	1:1	0.030	0.025	5.3	6.2	81,300	CE
Sylacauga	10+00	21+50	0.2	256[9]	294[9]	536.0	0.0046	6.0dim		--	0.012	0.012	10.4	10.4	--	P
[10]	21+50	49+70	0.8	520	539	523.0	0.0046	12	5.0	1.5:1	0.040	0.040	5.5	5.5	9,200	CE
[10]	49+70	54+00	0.9	960	970	521.5	0.0034	30	5.0	1.5:1	0.040	0.040	5.3	5.3	2,900	CE
	54+00	69+70	1.0	1170	1183	516.2	0.0034	16	5.5[11]	--	0.014	0.014	13.6	13.6	1,176[12]	L
	69+70	79+50	1.2	1550	1570	512.9	0.0034	20	5.5[11]	--	0.014	0.014	14.4	14.4	1,560[12]	L
[13]	79+50	90+00	1.8	1550	1591	506.9	0.0057	30	5.6	1.5:1	0.040	0.040	7.4	7.4	6,700	CE
[14]	90+00	114+00	1.9	1550	1555	501.4	0.0013	50	5.6	1:1	0.030	0.025	5.0	6.0	21,900	CE
	114+00	123+50	4.0	1075	1075	499.2	0.0023	30	5.6	1:1	0.035	0.030	5.4	6.3	2,000	CE
[15]	123+50	128+30	4.1	1479	1479	494.4	0.0100	20	5.6	1.5:1	0.040	0.040	9.3	9.3	1,300	CE

1/ At downstream end of reach.
2/ CE - channel enlargement; C&S - clearing and snagging; L - concrete lined channel; P - concrete pipe.
3/ Two-foot drop grade stabilization structures at Sta. 10+00, 41+50, 73+00, 104+50, 136+00, 167+50, 236+00, 280+00, 297+00, 314+00, and 331+00.
4/ Channel designed as wide and deep as possible thru the section to approach required capacity.
5/ Cross sectional area in square feet and wetted perimeter in feet below the hydraulic grade line.
6/ Two-foot drop grade stabilization structures at Sta. 10+00, 18+00, 26+00, 101+80, 110+30, 118+70, 127+20, 141+00, 169+75, 183+00, 196+00, 209+50, and 222+75.
7/ Grade stabilization structure at Sta. 60+00 with a 1½-foot drop.
8/ This section, from the confluence with the Sylacauga channel down to the gorge at the railroad, is designed to carry the composite discharges of Shirtee Creek and the Sylacauga channel.
9/ The 100-year discharge from Sta. 10+00 to Sta. 114+00 is within banks. From Sta. 114+00 to Sta. 128+30 a portion of 100-year storm will flow out of banks.
10/ Channel banks lined with rock rip-rap.
11/ Add approximately 1 foot height for wave action in unstable range.
12/ Cu. yds. of reinforced concrete.
13/ Channel banks lined with rock rip-rap; channel bottom is on natural rock.
14/ Grade stabilization structure at Sta. 90+00 with a 2.4-foot drop.
15/ Channel bottom and side slopes lined with rock rip-rap.

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TABLE 4 - ANNUAL COST

Tallaseehatchie Creek Watershed, Alabama

(Dollars)[1/]

Evaluation Unit	Amortization of Installation Cost[2/]	Operation and Maintenance Cost	Total
Flood Prevention and Multiple Purpose Structures and Stream Channel Improvement	187,121	17,414	204,535
Project Administration	26,465	XXXX	26,465
GRAND TOTAL	213,586	17,414	231,000

1/ Price base: installation 1969, O&M adjusted normalized.
2/ Amortized at 4 7/8 percent interest rate for 100 years.

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TABLE 5 - ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFIT

Tallaseehatchie Creek Watershed, Alabama

(Dollars)[1/]

Item	Estimated Average Annual Damage		Damage Reduction Benefit
	Without Project	With Project	
Floodwater			
Crop and Pasture	72,606	32,575	40,031
Other Agriculture	26,934	11,252	15,682
Nonagricultural			
Roads and Bridges	18,081	7,031	11,050
Urban[2/]	60,144	755	59,389
Subtotal	177,765	51,613	126,152
Sediment			
Overbank Deposition	2,627	463	2,164
Reservoirs	4,905	432	4,473
Subtotal	7,532	895	6,637
Erosion			
Flood Plain Scour	3,345	2,322	1,023
Subtotal	3,345	2,322	1,023
Indirect	38,339	6,069	32,270
TOTAL	226,981	60,899	166,082

1/ Price base - adjusted normalized prices.
2/ Damages to residential, commercial, and industrial properties.

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TABLE 6 - COMPARISON OF BENEFITS AND COSTS FOR STRUCTURAL MEASURES

Tallaseehatchie Creek Watershed, Alabama

(Dollars)

Evaluation Unit	Average Annual Benefits[1]							Total	Average Annual Cost[2]	Benefit Cost Ratio
	Damage Reduction	More Intensive Land Use	Changed Land Use Agr.	Municipal Water Supply	Secondary	Incidental Recreation	Redevelopment			
Flood Prevention and Multiple Purpose Structures, Stream Channel Improvement	160,738	15,449	19,291	7,685	23,207	26,690[3]	49,485	302,545	204,535	1.5:1
Project Administration	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	26,465	XXX
GRAND TOTAL	160,738[4]	15,449	19,291	7,685	23,207	26,690	49,485	302,545	231,000	1.3:1

1/ Price base: adjusted normalized prices.
2/ From Table 4.
3/ These benefits are the results of the U. S. Forest Service development of recreational facilities on Sites 1 and 4.
4/ In addition, it is estimated that land treatment will provide flood damage reduction benefits of $5,344 annually.

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INVESTIGATIONS AND ANALYSES

Hydrology and Hydraulics

From the "Rainfall Frequency Atlas of the United States," Technical Paper No. 40, a storm duration of 24 hours was used from which six storm frequencies were selected to route through the watershed. The rainfall frequencies routed were the 100-, 50-, 5-, 1-, and 0.2-year events. A study of 20 years of records (1946 through 1965) of the daily recording rainfall gage at Childersburg, Alabama, revealed that the greatest precipitation occurring in the period was 5.25 inches on March 29, 1951. This was equivalent to approximately a 10-year frequency storm.

Soil classification, land use, and vegetative cover were given consideration in determining the Antecedent Moisture Condition II Future Curve Number 73 for the agricultural lands of this watershed. The U. S. Forest Service cooperated in providing curve data for the woodlands of the watershed. Curve numbers were determined for each floodwater retarding structure in the watershed. The rainfall runoff relationship for each frequency storm evaluated was determined in accordance with Technical Release 16, "Rainfall Runoff Curve Numbers."

Forty valley sections representing 28 hydrologic routing reaches were located and surveyed. The computer was used to run the water surface profile and rate the valley sections for future without project and future with project conditions.

Flood routing was made by computer using the TR-20 program. Future Curve Number 73, Moisture Condition II, was used for all routings. Six alternate routings and the order of routing selected were as follows: first alternate was future without project; second, third, fourth, and fifth alternates included combinations of the more favorable floodwater retarding structures; sixth alternate included floodwater retarding Structure Nos. 1, 2, 3, 4, 6, 7, and 9 with channel improvement.

A water surface profile for the urban channels of the City of Sylacauga was run by computer through 75 valley sections and 32 bridge openings to include railroad and street crossings. Flood routing was made by computer using the same frequencies as for the agricultural channel. The curve number for the 15 reaches in the urban area varied from 76 to 98 as it increased in urban density of hard surface cover.

A reservoir operation study was made on both the 1,000 acre-feet of municipal water planned to be stored in multiple-purpose Structure No. 1 and the volume of water already stored in Sylacauga's existing Lake Howard. From this study it was determined that the supply as planned would meet the future demands.

Forestry

A systematic field survey showed ground cover, forest and hydrologic conditions, and treatment needs. This survey supporting data and information

from other agencies and forestry officials determined the amount of remedial measures. The measures recommended contribute to flood reduction and soil stabilization.

Economic Data

The benefit-cost evaluation of land and water resource projects was made from basic data obtained from local farmers, agricultural workers, experiment stations, and Department of Agriculture publications. Present prices (1969) were used for installation cost and were amortized over a 100-year period at 4 7/8-percent interest rates.

Owners and operators of flood plain land were interviewed to determine present land use, estimated flood free yields, and damages to minor fixed improvements. This information was checked for reasonableness and then summarized by economic reaches. Damageable values were derived and used in the Econ 2 computer program. Floodwater damages were derived from the IBM 1130 computer using a frequency evaluation method where damages were related to depth of flooding. Several different alternates were run using different series of floodwater retarding structures and channel improvement to get the best damage reduction for the least cost.

Restoration of former productivity benefits was estimated on the basis of increases in net income due to reduction of flood hazards. Associated cost and increased damages due to higher damageable values were deducted from gross benefits to give net benefits. The higher damageable values resulted from higher value crops being grown in the benefited flood plain. These benefits were added to the crop and pasture damage reduction benefits.

More intensive use benefits were calculated on the basis of expected increases in crop yields. These increases in yield would result from increased use of fertilizers and better managerial practices made profitable by reducing the flood hazard.

The method used in evaluating land damage was based on flood plain scour and sediment where damage and recovery are in equilibrium. Recovery of productivity is occurring at approximately the same rate as other areas are being damaged. Data furnished by the geologist and used in the evaluation included the location and percent of flood plain damaged and the amount of damage that could be recovered.

Incidental recreation benefits were evaluated on the two floodwater retarding structure sites on which the U. S. Forest Service is planning to install a recreational development. These two structures will have a total of 149 surface acres of impounded water. The evaluated annual benefits are based on the expected number of visitors times an estimated visitor-day value of $1.25. The method used in determining benefits was obtained from Auburn University and Soil Conservation Service data. The annual cost to install the recreational development plus the annual operation and maintenance cost was subtracted from the total benefits to arrive at the net recreational benefits. One-half the net benefits as agreed on by the U. S. Forest Service are used as a project benefit.

Changed land use benefits resulting from the installation of project measures are based on the difference in income from pasture to cory or soybeans. Also, benefits were claimed based on the clearing of woods in some of the better protected reaches and establishing the areas to pastures. Associated cost and increased damages due to higher damageable values were deducted from gross benefits to give net benefits.

Municipal water benefits obtained from consulting engineers retained by The Utilities Board of the City of Sylacauga were calculated using the cost of building a single-purpose dam to store 1,000 acre-feet of water. The cost for the single-purpose dam was discounted ten years, since the water will not be used for that period of time.

The cost of a dam to catch the sediment that the three floodwater retarding structures above Lake Howard will catch was used in computing the reduction of sediment benefits to Lake Howard.

The benefits accruing to the urban channel were evaluated on a stage-damage relationship for the depths involved. The elevation where flooding begins was taken on buildings that had flood damages. Damages were then computed as direct damages per $1,000 market value of the building and contents. These damages were directly proportional to the height of floodwater in the building.

Redevelopment benefits resulting from installation of project measures are based on utilization of unemployed local labor. The amount of construction cost spent for local labor was estimated to be about 30 percent. Thirty percent of the construction cost was converted to an annual amount by amortization at 4 7/8 percent interest over a 100-year period. Redevelopment benefits resulting from employment in operation and maintenance of project measures were estimated by taking 50 percent of the operation and maintenance cost and dividing by 25 years to obtain a rate of decline per year. This was multiplied by the present value of a decreasing annuity to obtain the present capital value. The present capital value was amortized at 4 7/8 percent interest for 100 years to obtain the annual benefit.

The evaluation of local secondary benefits stemming from the project was derived by applying a 10-percent factor to the sum of all primary project benefits (excluding indirect and redevelopment benefits). Local secondary benefits induced by the project were based on the difference in total production cost of crops and pasture with and without the project. A 10-percent factor was applied to this difference in production cost and also to the annual associated cost to get the gross annual secondary benefit.

Geology and Sedimentation

Geologic maps and reports were reviewed and a field review of conditions was made. Available maps and reports studied include "Geological Survey of Alabama, Special Report 14, Geology of Alabama" and "Preliminary Map of Crystalline Marble Deposits of Alabama." Preliminary damsite investigations were performed at nine sites. Investigations with a core drill and power auger were carried out at Site Nos. 1 and 7 and an alternate location

for Site No. 4. The other sites were investigated by inspection of the surface and a few hand auger borings. Conclusions were based on information gained in drilling Site Nos. 1, 4A, and 7 and numerous damsites in six other watersheds in the same physiographic region.

Geologic problems of damsites are similar throughout the part of the watershed in which sites were located. Foundation conditions are good with rock lying near the surface in the narrow V-shaped valleys. Borrow materials will come from emergency spillway excavation and other hill locations. Materials are weathered schists and phyllites, which classify as non-plastic GM's in the Unified Soil Classification System.

Sediment storage calculations were based on one area in which land use, cover conditions, slope, and length of slope were mapped in detail. The damsites are all in very similar topography. The total drainage area behind sites is wooded, with only a few dirt roads and open rights-of-way. The Musgrave Soil Loss Equation was used to estimate erosion rates. Sediment delivery ratios were estimated using a curve relating size of drainage area to gross erosion. Sediment storage requirements were projected for 100-year life of structures using the present erosion rate for 10 years and the predicted future rate for 90 years. The sediment pool elevation is set by the capacity required to store the predicted submerged sediment accumulation. Additional capacity for aerated sediment is provided in the detention pool for that portion of the sediment estimated to remain above the sediment pool elevation (approximately 10 percent of the total). Volume weights used for converting erosion to sediment were 84 to 96 pounds per cubic foot for soils in place, 48 pounds per cubic foot for submerged sediment, and 76 pounds per cubic foot for aerated sediment.

Flood plain scour and sediment damages were estimated by mapping the damage on valley cross-sections and expanding the damage to the acreage represented by the sections. Damage and recovery factors were determined jointly by the geologist and economist.

Channel stability estimates were based on field classification of the flood plain soils. It was agreed in a conference with the planning staff and state conservation engineer that design velocities of 5.0 to 5.5 feet per second would be allowable throughout the watershed. Channels having higher velocities are planned to be protected by structural measures. The soils are classified as mostly CL with a plasticity index found to be from 4.2 to 14.4.

Engineering

All possible floodwater retarding structure sites in the watershed were located after a study of the drainage area size and pattern from photographic and topographic coverage. Further study and field investigations eliminated all except seven sites. A feasibility study was made of three possible damsites above the City of Sylacauga's municipal water reservoir, Lake Howard, against one site on or just above the Lake Howard dam. This study favored the three upper sites and was planned accordingly.

The cost of all floodwater retarding structures exceeded $75,000, making it necessary for all sites to approach Class "b". Site Nos. 6, 7, and 9 were classified according to SCS Memo 27 as Class "b" structures. Site Nos. 1, 2, 3, and 4 were located all or in part on U. S. Forest Service land; therefore, in accordance with Title 7500 of the Forest Service Manual, the U. S. Forest Service designated all these sites as Class "c".

Topographic maps of all sites were made with the use of a Kelsh Plotter. The accuracy of these maps was checked by field surveys. A stage-storage curve was developed from the topographic maps and used in the proportioning of the floodwater retarding structures.

The floodwater retarding structures were designed based on criteria set forth in Engineering Memo AL-6 (Rev.). This memorandum establishes minimum state criteria for the planning and design of dams and supplements Washington Engineering Memo 27. The hydrologic criteria for the design of dams established by AL-6 (Rev.) exceeds that set forth in SCS Memo 27. In Memo AL-6 (Rev.) the Antecedent Moisture Condition for the principal spillways of Class "b" and "c" structures and the freeboard for Class "b" structures are increased from Condition II to II$\frac{1}{2}$.

Two or three low-stage discharges and principal spillway sizes were routed on each structure by use of the computer. The design of the principal spillway was chosen after analyzing the computer output data. Consideration was given to the use of single- or two-stage risers, pipe size, average release, needed channel improvement, structure cost, safety of the structure, and the level of protection provided. The location of the emergency spillway was chosen after studying the available photographs and topographic maps and after making a field study of the site conditions. The width and depth of the emergency spillway were chosen after routing two or three acceptable widths. All of the emergency spillways are designed as vegetated spillways.

All embankments are designed as earth fill with an upstream berm located at the normal pool level for wave erosion protection. A toe drain was planned in each structure to provide for embankment and foundation drainage.

Suitable vegetation will be established on the embankment, emergency spillway, and borrow areas. Vegetation in the emergency spillway will be established according to SCS Engineering Memo 27.

An engineering consultant retained by the City of Sylacauga agreed to the site selection for multiple-purpose Structure No. 1 and with Soil Conservation Service engineers made a joint on-the-site investigation of the foundation and abutment conditions after the drilling was completed.

Both Site Nos. 6 and 7 will require a dike in a saddle along the ridge on the north boundary of the watershed. Site No. 9 will require a tail ditch from the site downstream to Crooked Creek.

A field investigation was made of all streams within the watershed. Aerial photographs and blue line maps were used in determining the centerline of the planned channel improvement. This centerline was then checked in the field.

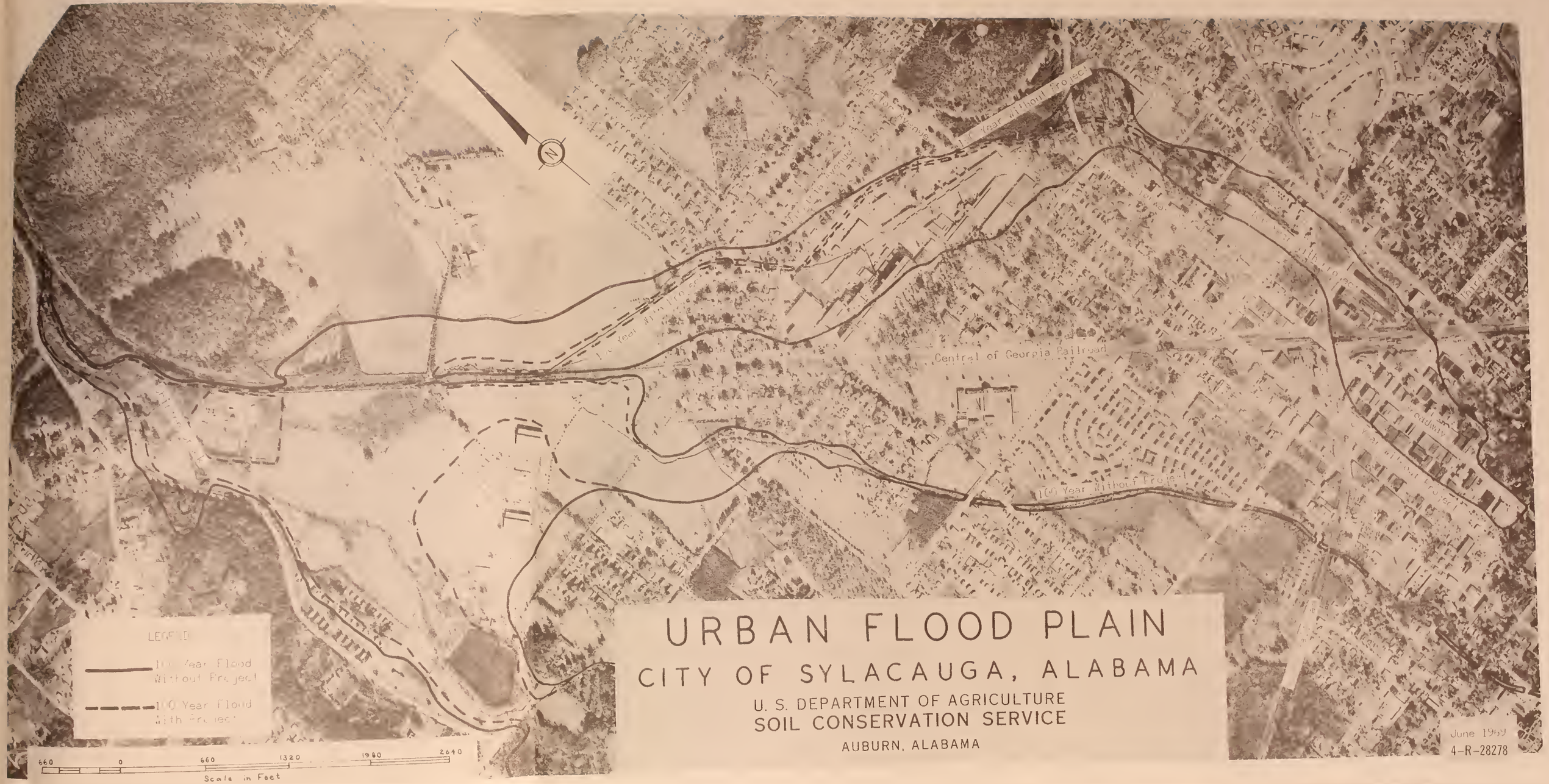
The design capacity of the agricultural channels was based on the discharge produced by a 0.5-year frequency storm. Manning's "n" values for design were selected in accordance with chapter 6, section 16, of the National Engineering Handbook.

Grade stabilization structures with a maximum drop of two feet are planned in all channel improvements except Emauhee and Fourmile Creeks. These structures are designed with a reduced cross-sectional area through the control section. This reduced area will raise the maximum water surface elevation closer to normal depth, producing desirable velocities immediately upstream from the structure.

Extensive surveys consisting of valley and channel sections, elevations of roads, houses, and industrial buildings were made along two existing channels within the City of Sylacauga. These two channels were considered as possible outlets for the floodwaters that occur within downtown Sylacauga. The hydraulic study of these channels revealed that the channel located west of the downtown area would carry within banks the 100-year frequency discharge from the upper end of the watershed downstream to Eighth Street. From Eighth Street downstream the 100-year discharge will overflow into the urban areas. The channel located east of downtown Sylacauga will carry only about a .33-year frequency storm.

A study was made on these two channel routes to determine the most feasible way to provide an outlet for the downtown floodwaters and at the same time eliminate a major portion of the floodwater damages occurring in Sylacauga. The east route proved to be the one most feasible and the route accepted by the City of Sylacauga officials.

High velocities exist in some reaches of the urban channel; therefore, riprap is planned for the banks through these sections but is not needed on the bottom because of existing lime rock. Concrete lining was used from Norton Avenue to Virginia Avenue because of high velocities and high land rights costs.



URBAN FLOOD PLAIN

CITY OF SYLACAUGA, ALABAMA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
AUBURN, ALABAMA

June 1969
4-R-28278

SITE NUMBERS AND DRAINAGE AREA IN ACRES

Site No	Acres
1	14,778
2	2,477
3	3,597
4	13,555
6	1,754
7	1,312
9	1,613

LEGEND

- County Line
- US Township Line
- Section Line
- 36 Section Number
- Unimproved Roads
- Paved Roads
- Improved Roads
- US. Highway Numbers
- State Highway Numbers
- Power Lines
- National Forest Boundary
- Town or Community
- Watershed Boundary
- Drainage Area Controlled by Structure
- Area Benefited
- Common Flood Plain Benefited
- Floodwater Retarding Structure
- Multiple - Purpose Structure
- M Municipal
- (4) Structure Number
- DA(3.12 Ac. Drainage Area Acreage
- 2 Reaches
- Channel Improvement for Flood Prevention

FIGURE 1

PROJECT MAP

TALLASEEHATCHIE CREEK WATERSHED

CLAY AND TALLADEGA COUNTIES, ALABAMA

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
AUBURN, ALABAMA

Revised 1-70

4-R-28301

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
PEACHTREE-SEVENTH BUILDING
ATLANTA, GEORGIA 30323

December 27, 1968

DA-Ala. (Tallaseehatchie Creek)

Mr. William B. Lingle
State Conservationist, Soil
Conservation Service
Auburn, Alabama

Dear Mr. Lingle:

In cooperation with representatives of the Alabama Department of Conservation, we have conducted reconnaissance studies of the Tallaseehatchie Creek Watershed, Talladega and Clay Counties, Alabama. This report, based upon work plan data provided by Mr. E. V. Todd on November 5, 1968, is submitted in accordance with provisions of Section 12 of the Watershed Protection and Flood Prevention Act (68 Stat. 666, as amended; 16 U.S.C. 1008).

The small watershed data sheet indicates that there is proposed about 11 miles of channel excavation; 15 miles of clearing and snagging; and other works, including 28 acres of wildlife area improvement and 23 acres of field border planting. Nine floodwater-retarding structures, including one with municipal storage, are proposed.

Wildlife resource values in the watershed are moderate to low. Owing to textile mill pollution, the stream fishery is negligible.

Excavation, channel clearing, and inundation will result in the loss of wildlife habitat. This loss will be somewhat compensated for by the 28 acres of wildlife area improvement and 23 acres of field border planting. Although not subject to intensive management, the nine reservoirs will provide a low to moderate quality sport fishery. We hope that you will encourage the landowners to manage and stock these reservoirs in accordance with current Alabama Department of Conservation recommendations and to provide adequate public access.

This report has been reviewed and concurred in by the Alabama Department of Conservation and a copy of Director Graham's letter is attached.

We appreciate the opportunity to comment on the proposed plan.

Sincerely yours,

W. L. Towns

W. L. Towns
Acting Regional Director

Attachment

STATE OF ALABAMA
DEPARTMENT OF CONSERVATION
ADMINISTRATIVE BUILDING
MONTGOMERY, ALABAMA 36104

JOE W. GRAHAM
DIRECTOR
AUBREY J. CARR
ASSISTANT DIRECTOR

December 16, 1968

Mr. W. L. Towns
Acting Regional Director
U.S. Department of the Interior
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife
Peachtree-Seventh Building
Atlanta, Georgia 30323

Dear Mr. Towns:

A review of your organization's report on the Tallaseehatchie Creek Watershed Project located in Talladega and Clay Counties, Alabama, has been made.

The Alabama Department of Conservation concurs in the Bureau of Sport Fisheries and Wildlife report on this project.

Sincerely,

Joe W. Graham

Joe W. Graham
Director of Conservation